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Archives of Dermatology and Syphilology

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TREATMENT OF NEUROSYPHILIS BY MALARIA

A PRELIMINARY REPORT *

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In this preliminary report of our experience during the last year in the treatment of neurosyphilis by inoculation of the malaria plasmodium, we shall not endeavor to draw conclusions as to its value. Time will determine this, not only in cases of general paralysis, but also in other forms of neurosyphilis. Our observations thus far and the published results of others have led us to believe that a continued thorough trial and observation of the "fever therapy" for several years is warranted.

A discussion of the mechanism by which the results are accomplished is not illuminating but is of historic interest. Clouston is reported by McAlister [1] as prophesying, in 1883, that "some day we shall hit upon a mode of producing a local inflammation or manageable septic poisoning by which we shall cut short and cure attacks of mania." In 1887, Wagner-von Jauregg [2] started to practice "fever therapy." The conception of such a method of treatment was based on the known fact, first recorded many years ago, that intercurrent infections, such as typhoid, malaria, erysipelas and sepsis often produce remissions in the psychoses and in paresis. In 1890, Wagner-von Jauregg [3] inoculated a group of paretic patients with Koch's old tuberculin, and in comparing

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* From the Section on Dermatology and Syphilology, Mayo Clinic.

* Read at the Forty-Eighth Annual Meeting of the American Dermatological Association, Washington, D. C., May, 1925.

1. McAlister, W. M.: The Treatment of General Paralysis by Infection with Malaria, Brit. M. J. **2**:696-698, 1923.

2. Wagner-von Jauregg, Julius: Ueber die Einwirkung fieberhafter Erkrankungen auf Psychosen, Jahrb. f. Psychiat. **7**:94-131, 1887.

3. Wagner-von Jauregg, Julius: Ueber die Behandlung der progressiven Paralyse, Wien. med. Wchnschr. **59**:2124-2127, 1909.

them with a control group of uninoculated paretic patients, he found that the former lived longer. Pilcz [4] confirmed this finding in a series of sixty patients, so that for a time the tuberculin injections were carried on in conjunction with iodid and mercury, and later with arsphenamin. The objection to the method was the production of sensitization to the tuberculin protein, which too frequently resulted in a marked decline of the patient's health. Gerstmann [5] reports, however, that on the whole the results obtained were favorable. Polyvalent typhoid vaccine and polyvalent staphylococcus vaccines were used in place of the tuberculin, with fair results from the typhoid and discouraging results from the staphylococcus. In a comparison of these three methods, it was found that tuberculin produced remissions of greater frequency, of much higher degree and of longer duration than either the typhoid or staphylococcus vaccines.

Since Wagner-von Jauregg's [6] report in 1919 of the results obtained in the treatment of the first nine patients inoculated in 1917, there have been a number of reports from continental Europe and Great Britain. The first report from this country was made by Bunker and Kirby [7] in February, 1925.

Gerstmann [5] reported a series of 294 cases which showed more promising results than have heretofore been obtained in the treatment of general paralysis. He does not recommend the use of arsphenamin after the malaria, and he reports that the serologic findings may reverse several years later. He emphasizes the need for patience in awaiting results.

Weygandt's [8] series has been observed for four and a half years, and shows a more favorable response the longer the observation is carried on. He has noted that patients who had malaria early in the course of syphilis were not immune to general paralysis; and he also believes that tabes dorsalis is materially benefited by a course of malaria, although dementia praecox and multiple sclerosis were not benefited.

Kirschbaum and Kaltenbach,[9] in a large series of cases, have seen few complications from the malaria and have had no relapses of malaria in

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4. Pilcz, A.: Zur Tuberkulinbehandlung der Paralytiker, Psychiat. neurol. Wchnschr. **11**:431, 1909-1910.

5. Gerstmann, J.: Ueber die Einwirkung der Malaria tertiana auf die progressive Paralyse. II, Ztschr. f. d. ges. Neurol. u. Psychiat. **74**:242-258, 1922.

6. Wagner-von Jauregg, Julius: Ueber die Einwirkung der Malaria auf die progressive Paralyse, Psychiat. neurol. Wchnschr. **20**:132, 251, 1918-1919.

7. Bunker, H. A., and Kirby, G. H.: Treatment of General Paralysis by Inoculation with Malaria, J. A. M. A. **84**:563-568 (Feb. 21) 1925.

8. Weygandt, W.: Ueber aktive Paralysetherapie, München. med. Wchnschr. **1**:278-280, 1922.

9. Kirschbaum, W., and Kaltenbach, H.: Weitere Ergebnisse bei der Malariabehandlung der progressiven Paralyse, Ztschr. f. d. ges. Neurol. u. Psychiat. **84**:297, 1923.

the patients thoroughly treated with quinin. They report five cases in which malaria was contracted at the time of the secondary manifestations of syphilis, and general paralysis was later manifested. The second and third inoculations with plasmodia, in cases in which there was a relapse of the general paralysis following the first course of malaria, did not tend to produce a second remission; and the authors agree with previous investigators that antisyphilitic treatment for syphilis after the malaria does not materially benefit the patient. The authors compared a series of seventy patients who had paresis treated with malaria, with seventy-eight not so treated, and found that thirty-eight in the former group had remissions, against eight in the latter group; also that eight of the patients treated with malaria died, while thirty-three of those not treated with malaria succumbed to the general paralysis.

Macbride and Templeton [10] thought they noted an increase in the virulence of the malaria strain in the successive transmissions. This observation has been confirmed by a few writers. They recommend the use of arsphenamin after the malaria to treat the anemia, if for no other reason.

Reese and Peter [11] found myocarditis a troublesome complication and therefore recommended that the patients to be inoculated should be carefully selected.

McAlister [1] emphasizes the need for inoculating as soon as possible in the course of the general paralysis, an observation confirmed in several series.

York and Macfie [12] studied thirty-nine patients inoculated by the mosquito and found that the clinical results ran parallel with the inoculation of the asexual forms of the plasmodium, although the complications, relapses and deaths were more numerous in the former.

Bunker and Kirby [7] thought they noted a decided difference in the results from the two strains of plasmodia, and believed the virulence increased with the successive passages.

Our review of the literature has definitely impressed us with the favorable results reported. One of the outstanding features of the reports is that all deductions are conservative. It is necessary to emphasize the wisdom of not endeavoring to make conclusive estimates of the value of the method until a number of years have elapsed from the time the injections of the malaria were given. The reports of

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10. Macbride, H. J., and Templeton, W. L.: Treatment of General Paralyses of the Insane by Malaria, J. Neurol. & Psychopath. **5**:13-27, 1924.

11. Reese, H., and Peter, K.: Die Einwirkung der Malaria Tertiana auf die Progressive Paralyse, Med. Klin. **20**:372-376; 410-412, 1924.

12. York, W., and Macfie, J. W. S.: Certain Observations on Malaria Made During the Treatment of General Paralyses, Tr. Roy. Soc. Trop. Med. Hyg. **18**:13-44, 1924; abstr., Lancet **1**:1017-1019, 1924.

Wagner-von Jauregg and those who have been associated with him in this work lay special stress on this point, and recommend that the inoculated patients be observed for five years before deductions are made (Table 1).

The serologic results are not as impressive as the clinical. However, in the groups that have been observed for several years, it has been noted that there is a gradual tendency for the serologic findings to reverse to negative both in the blood serum and in the spinal fluid. The changes have been found in the cell counts of the spinal fluid, in the globulin tests, the colloidal tests and its various modifications, and the Wassermann reaction, reversal being shown in the order given.

The early clinical improvement was not paralleled by reversals in the serologic findings in any of the groups reported, nor was it possible

TABLE 1.—*Summary of the Cases Noted in the Literature to April 1, 1925*

Source	Cases	Greatly Improved Per-centage	Moderately Improved Per-centage	Unchanged Per-centage
Vienna Neurologic Clinic	394	28	65	7
Nonne Clinic (Hamburg)	301	33	36	31
Reese and Peter (Hamburg)	75	20	50	30
York and Macfie	84	27	32	41
Askgaard	37	32	21	47
Grant	40	?	?	?
Bunker and Kirby	33	54	?	46
Bratz and Schulze	100	44	12	44
Donner	30	30	30	40
Macbride and Templeton	18	15	?	?
Total	1112	31	35	32

to make any deductions as to the future course of the general paralysis from the serologic study. Many paretic patients went into complete remission and remained well for several years in spite of the persistent positive findings in the blood and spinal fluid.

The results of the malaria treatment of juvenile paretic patients have been disappointing, according to several reports.

The complications of the malaria have not been as numerous as might be expected, particularly in view of the fact that most of the patients treated have had the advanced or certified type of general paralysis. The complications during the treatment were loss of weight, weakness, anemia, epistaxis, herpes labialis, enlargement of the spleen, rupture of the spleen, nausea and vomiting, jaundice and edema, uremia, urine retention, enlargement of the liver, irritability, hallucinations and delusions. It is proper that the complications that follow

the malaria, such as bed sores, sepsis, exhaustion, enteritis, pneumonia and parotitis, should be debited to the malaria.

The relapse of the malaria in patients inoculated with the asexual forms of the *Plasmodium vivax* is probably the result of inadequate administration of quinin. There is a group of persons who carry the plasmodia in the blood stream, as the smear or hanging drop will demonstrate, and yet show no clinical evidence of the infection. There is a second group in whom the plasmodia produce very mild and almost insignificant clinical symptoms, while in a third group are those who present clinical signs of the disease without it being possible to demonstrate the protozoa. It is therefore essential that all patients inoculated have at least three negative smears before dismissal from the hospital. Kogerer [13] has suggested the use of sodium nucleinate to "provoke" or stir up the plasmodia when they are not readily found.

Several modifications of the use of malaria have been advocated in conjunction with intraspinal or cisternal treatment, but as the reports contain few cases, it is too early to determine the value of the procedure. Other fever-producing agents, such as *Spirochaeta refringens* and milk, have been reported as giving good therapeutic results.

MODE OF ACTION

Although the exact mechanism of the therapeutic action of the malaria plasmodium is not thoroughly understood, the various theories seem worthy of recording at this time. To those of us who have tried the method, it appears that we may be about to cross the threshold into a new era in the treatment of syphilis.

Weichbrodt and Jahnel [14] noted that a chancre experimentally produced in a rabbit would involute when the rabbit was subjected to temperatures of 42 or 43 C. on successive occasions. They also observed that in paretic patients who had died from some intercurrent fever with high temperatures it was impossible to demonstrate the *Spirochaeta pallida* in the brain tissue at necropsy. It has also been noted by several authors that the best results have been obtained in those paretic patients who showed the most marked malarial pyrexia. The increase in the height of the temperature curve in successive malaria inoculations has been interpreted by certain investigators as an index of the increase in virulence of the organism. This finding has not been constantly noted.

13. Kogerer, H.: Ueber die Probe mit Natrium nucleinicum bei der Malariabehandlung der Paralytiker, Wien. klin. Wchnschr. **35**:342, 1922.

14. Weichbrodt, R., and Jahnel, F.: Einfluss hoher Körpertemperaturen auf die Spirochäten und Krankheitserscheinungen der Syphilis im Tierexperiment, Deutsch. med. Wchnschr. **45**:483, 1919.

We did observe, however, that those patients who had the higher fevers showed the better results.

Mühlens and Kirschbaum [15] noted that after inoculation of the plasmodium a marked impoverishment of the blood was followed by a rapid regeneration which they thought would lead to a nonspecific reactivation of the immunity processes.

In a consideration of the psychoses, Goodall [16] believed that the beneficial results of intercurrent maladies on the insanities were examples of nonspecific protein therapy, and that the biologic relation between the plasmodium and the spirochete is so close that the production of antisubstances would be expected. He was unable to produce antibodies by the injection into rabbits of large amounts of cerebrospinal fluid from paretic persons.

Macbride and Templeton [10] suggest that a combination of the quickening of metabolism with the removal of accumulated waste products, the action of the fever on the spirochetes, the possibility of a biologic relationship between the plasmodium and *Spirochaeta pallida,* and the production of a specific antibody against the spirochete, were the means by which the results were accomplished.

Bratz and Schulze [17] have reported that pathologic researches on brains in the psychopathic hospital at Dalldorf seem to support the contention that the malaria parasites make the small blood vessels of the brain more permeable, so that it is possible for protective substances from the blood to enter the brain tissues.

York and Macfie [12] believe that the quinin kills many of the plasmodia but not all. The dead set free a soluble antigen, which stimulates the host's tissue and provokes the formation of immune bodies against the remaining plasmodia. If sufficient amounts are formed, the remaining plasmodia will be killed. The malaria will relapse if these reactions do not occur. York and Macfie contend that man has a certain natural immunity to malaria which can be stimulated, and also that there is more than one species of tertian malaria parasite. They believe the immune bodies play an important part in the treatment of the malaria, and are possibly associated with the results obtained in general paralysis.

Purves-Stewart [18] expressed the opinion that the malaria accomplishes the good results by the pyrexia as it burns up the toxins affecting

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15. Mühlens, P., and Kirschbaum, W.: Parasitologische und klinische Beobachtungen bei künstlichen Malaria-und Recurrensübertragungen, Ztschr. f. Hyg. u. Infektionskrankh. **94**:1-28, 1921.

16. Goodall, E.: Considerations, Bacteriological, Toxicological, Hematological and Others Thereto Akin, Lancet **2**:105-108, 1923.

17. Bratz and Schulze: Malaria Treatment of General Paralysis, J. A. M. A. **84**:911-912 (March 21) 1925.

18. Purves-Stewart, James: The Treatment of General Paralyses, Brit. M. J. **1**:508-510, 1924.

the cerebral cells, causing a sort of cleansing fire; but the absence of any marked serologic changes shows that syphilitic encephalitis is still uncured.

Grant [19] believes that intermittent high temperatures are more efficacious than continued fever, although he has not completed his study of the effect of relapsing fever on general paralysis.

PUBLIC HEALTH ASPECTS

An important aspect of the entire problem of "malaria therapy" is the effect the culturing of the plasmodium in human hosts has on the community. There are forty-four different types of *Anophelinae* that are malaria transmitters, according to Deaderick and Thompson,[20] and there are very few, if any, communities on this continent in which one or more members of the *Anophelinae* are not to be found some time during the year; hence the need for drastic preventive measures to control the spread of malaria in the community in which the fever treatment is being used. It is recommended that the spread of malaria be prevented: (1) by complete isolation of the infected host during the entire course of treatment, from the time of inoculation until the blood smears are repeatedly negative; (2) by the use of screens on the windows and the doors of the rooms in which the patients are kept; (3) by isolation at points where mosquitoes are less likely to be found; (4) by the routine use of prophylactic quinin (10 grains [0.65 gm.] daily) by all those who come in contact with these patients; (5) by covering all mosquito breeding places in the vicinity of the hospital with oil, and (6) by the treatment of few patients during the time of the year when the mosquitoes are prevalent. Institutions situated a mile or more from thickly populated communities should be used if possible, because it has been definitely demonstrated that there is small possibility of the mosquito flying more than a mile from the place where it acquired the plasmodia blood. The greater danger of the spread of the infection to distant points is in the malaria carrier. Bass [21] has called attention to the fact that in the communities where it is impossible to control the breeding of the mosquito, it is still possible to control the malaria by disinfecting the human hosts with quinin.

In the group reported here, thirty-five patients were inoculated between July 1, 1924, and March 15, 1925. Of this number, twenty-

19. Grant, A. R.: The Treatment of General Paralyses by Malaria, Brit. M. J. **2**:698-700, 1923.

20. Thompson and Deaderick, quoted by Bass in Tice: Practice of Medicine, Hagerstown, W. F. Prior Company, 1923.

21. Bass, C. C.: Malaria, in Tice: Practice of Medicine, Hagerstown, W. F. Prior Company, **3**:551, 1923.

four were paretic patients; twelve were classified as having simple dementia, nine were maniac and three emotionally depressed. Of the rest, four had paresis sine paresi, three were neurosyphilitic patients without symptoms who had received intensive antisyphilitic treatment, three were neurosyphilitic patients with optic atrophy, and one was a serologically negative tabetic patient who had received intensive treatment but in whom the lightning pains were extremely persistent and severe. Two of the patients had gastric crises as a complication.

The patients were inoculated by withdrawing the blood from the infected host and immediately injecting it either intravenously or intramuscularly. It is advisable to test out the recipient's tolerance to quinin several days previous to the inoculation.

The fact that the blood inoculated was taken from a patient with signs of general paralysis and injected into patients showing only presumptive signs of general paralysis or no clinical evidence of such degeneration, might be objected to by the staunch advocates of the neurotropic strain of *Spirochaeta pallida*. Numerous writers in Europe who have noted no complications or evidence of superinfection are our authority for the procedure. All of the patients inoculated showed unquestionable clinical signs of the disease. Those who did not manifest evidence of progressive paralysis had received prolonged and intensive courses of treatment without benefit, and were obviously in need of help. It is undoubtedly possible to produce a d'emblé type of infection from the blood of persons with late neurosyphilis, but it is less probable in malarial transference than in blood transfusions.

RESULTS

The foreign literature emphasizes the fact that the better results have been noted several years after the malaria course. We have observed several patients who have shown such prompt and marked remission immediately after the malaria that we feel compelled, in spite of the recommendations of European observers, to summarize the results observed one month after the malaria course. We acknowledge that the startling remissions obtained in paretic patients in the past by some of the various methods advocated have been but transient, so that this summary is not intended to be final, and we trust it will not be misleading. Further observations are necessary.

In a group of twenty-four paretic patients, six went into complete remission, nine were in incomplete remission one month after the malaria was stopped, three were uninfluenced, and two died—one as the result of the malaria and the other from paretic convulsions six months after the malaria. Four have not been heard from.

As it is impossible to estimate the degree of remission in percentages, it is difficult to evaluate accurately for the reader the improvement observed as a result of the fever treatment. We have, therefore, based our estimates on the ability of the patient to resume his former occupation, on his memory tests, general appearance, expression, strength and changes in personality.

No changes have been noted in the pupillary reactions or the deep reflexes. The changes observed in the sensory findings, when compared with those determined before the malaria inoculation, are untrustworthy, because the mental changes interfere with the exact interpretation of the stimuli. We would not expect any noteworthy change in the response to the sensory and motor tests in so short a period.

The somatic complaints were the most favorably influenced. The general improvement in the patient's tone and general demeanor were outstanding. Improvement in speech was noted in fourteen of the sixteen cases in which it was a complication. Tremors, particularly about the mouth, and of the tongue and hands, did not show such favorable response, as in one half of the cases there was no improvement, while in the remainder there was only slight benefit. In four of the cases the ataxia was improved, in two definitely, and in two slightly. The expression was improved in a few, while the general appearance and attitude were strikingly benefited in twelve of seventeen cases. Coordination changed slowly, but some improvement was noted in a few cases. The improvement in strength was noted in 75 per cent. of the cases just as soon as the effects of malaria disappeared, an improvement which was determined not only by the patient's demonstration, but also by his ability to carry on manual labor.

Restoration of memory has been reported as slow, and our observations confirm this, although three of the entire group of twenty-four paretic patients improved almost phenomenally immediately after the malaria course. Insight and ability were favorably influenced in eleven of eighteen patients in whom it was possible to estimate them, and ambition was apparently instilled into all those who showed any improvement. A slight increase in libido and potentia was noted in four patients. Three gave a history of convulsions previous to the inoculation; two of these died, while one was decidedly benefited in that he has not had a convulsion during the last nine months.

The two patients that died were paretic. The first died as a result of the malaria; the second died six months after the malaria inoculation. The patient had a fulminating type of general paralysis and aborted the malaria after the third chill. The frequency of the convulsions had been increasing rapidly before the malaria inoculation, and following the spontaneous cure of the malaria he became very much disturbed and

excited. It was impossible to reinoculate him, and he died in convulsions as a result of the general paralysis.

DISCUSSION OF RESULTS

Of the six patients who showed a complete remission, one had had two previous remissions after treatment with tryparsamide, while the remainder had had none. The nine who were definitely improved by the malarial treatment did not have histories of induced or spontaneous remissions, while the three without changes were, at the time of the inoculation, in partial remission. These three patients, although not improved, were not made any worse by the treatment.

In the group of asymptomatic neurosyphilitic patients with persistently positive serologic findings, no immediate results were noted clinically or serologically; in the three cases of paresis sine paresi one patient manifested definite improvement in strength and general health, but the other two were uninfluenced. The three patients with simple optic atrophy were slightly worse immediately after the malaria, but the failing vision was probably the result of the general debility associated with the treatment, because in each instance within a few weeks the vision was restored to its former strength. In the patient who suffered from persistent lightning pain, and whose serologic findings were negative, there was no improvement, nor did the group manifesting gastric crises show any immediate improvement.

The changes in the serologic findings of the blood and spinal fluid were insignificant. Only one patient showed a reversal of the Kolmer test of the spinal fluid, while in 70 per cent. the pleocytosis was reduced. In two patients the positive Kolmer test of the blood serum became negative, while in one a negative blood Kolmer test was reversed to positive. It would seem, however, that further study of the serologic findings over a long period is warranted. Similarly the changes in the globulin estimations by the Nonne test and the colloidal benzoin reactions were so few and so slight that deductions regarding their significance or value are not justified.

In those paretic patients who developed complete remissions, the general paralysis was of eight months' duration on the average; in those whose remissions were incomplete, the paresis was of twenty-four month's duration; while in those who derived no benefit, the symptoms of general paralysis had been present for sixteen months. The history of the duration of syphilis in the same three groups averaged nine years, nine and one-half years and twelve years. Our experience would seem to harmonize, in a general way, with the reports in the literature that results are better the earlier the inoculation is made in the course of general paralysis.

The pyrexial reactions of the malaria were studied in order to determine whether results bore any relation to the degree, duration, frequency and height of the fever and chills. The most marked difference is to be observed in the duration of the rise in temperature in the complete remission and incomplete remission groups, although those who improved the most showed the maximal height, duration and frequency of temperature.

COMPLICATIONS

The complications due to the malaria treatment have been studied under the following heads: (1) the complications due to the malaria during the febrile period, (2) the complications of syphilis stirred up during the febrile period, and (3) the complications of the malaria and syphilis noted after the malaria.

The first group was subdivided into mental and physical reaction. Thirteen of the thirty-five patients at some time during the course of the fever had delirium, which ranged from a very mild muttering

TABLE 2.—*Duration of Rise in Temperature, and Chills in Various Patients*

	Complete Remission	Incomplete Remission	No Change
Average height of temperature.....	104.3	103.5	103.6
Average duration of pyrexia (hours).....	9+	6	5
Average number of chills.....	13	12	11.5
Average length of chills (minutes).....	57	44	48

during the height of the temperature to an excited phase that required physical restraint. Quinin was used to control the delirium in those in whom it persisted during the febrile periods. It was necessary to stop the malaria in one patient because of the wild delirium. A few hallucinations and delusions of a transitory character were noted, and disappeared with the cessation of the fevers. In our cases the degree of the delirium, hallucinations and delusions was not proportional to the degree of improvement noted.

Although the mental reactions were more numerous, they were not as severe, with one exception, as the physical complications of the malaria. The most constant finding during the course of the malaria was the progressive weakness which became so alarming in four patients that it was necessary to abort the malaria before the end of their prescribed course of chills. In an effort to control this complication, we have more recently used glucose and physiologic sodium chlorid solution, by rectum or intravenously, as a routine for those patients who show evidence of increasing asthenia. The recovery from this complication

was rapid and uneventful in all cases. The loss of weight averaged 8 pounds (3.6 kg.) and varied from 3 to 15 pounds (1.4 to 6.8 kg.). Two patients showed a definite gain during the febrile course, one of 3.5 pounds (1.6 kg.) and one of 2 pounds (0.9 kg.). The return to the weight previous to the malaria inoculation was rapid in all successful cases, and most patients continued to gain. One patient gained 22 pounds (10 kg.) over his former best weight. Nausea and vomiting were frequently noted during the height of the chills; diarrhea, rectal and vesical incontinence, urinary retention, and varying degrees of edema of the ankles and face were also encountered. A cachectic, sallow appearance was commonly observed, and a few patients were definitely jaundiced. The short course of the malaria possibly accounted for the low incidence of palpable spleens, although there was probably a definite increase in the size of the spleen in all cases. In two patients the liver was appreciably enlarged. Anemia was another constant complication, the hemoglobin dropping as low as 45 per cent. and the red blood cells down to 3,500,000 on one occasion. Contrary to our expectations, all of the patients did not show a leukopenia during the malaria course; in fact, only two of the twelve in whom the blood was studied showed a decrease in the number of white blood cells. Herpes labialis was encountered occasionally. A mild degree of myocarditis was demonstrated in one patient, although a slight degree of myocardial insufficiency was probably present in those in whom the edema of the ankles developed toward the end of the course. Irritation of the kidney was noted occasionally, particularly in those who had showed some renal irritability while on antisyphilitic treatment. At no time were the urinary findings sufficient to warrant interference with the malaria. This complication will be discussed in more detail under the studies of the blood urea. Two patients had persistent nonproductive bronchitis which lasted for several weeks, and two others complained of a mild neuritis, particularly about the trunk and upper arms. One case of erysipelas developed toward the end of the course of malaria.

It is to be emphasized that all of these complications disappeared rapidly when the malaria was controlled. Although the use of quinin by mouth usually arrests the malaria at once, it is more advisable to have available some of the quinin preparations for emergency use, such as quinin and urea hydrochlorid which has been recommended by Kirschbaum and Kaltenbach [9] for intramuscular use, or the 10 grain (0.65 gm.) doses of quinin dihydrochlorid dissolved in 20 c.c. of physiologic sodium chlorid solution and sterilized previous to intravenous injections.

The complications of syphilis were the lighting up of gastric crises in patients who gave a history of similar attacks previous to the inocu-

lations, the exacerbation and increase in severity of the "lightning pains," and in one patient, the appearance of a previously unrecognized hepatitis which persisted until intramuscular injections of mercury and intravenous injections of sodium iodid were substituted for the ineffective quinin.

None of our patients showed any evidence of recidives or nerve complications during or after the malaria. The course of malaria varies in the individual patient. There were no late complications following the cessation of the malaria in this series.

METHODS OF FORECASTING COMPLICATIONS

In an effort to establish a method by which we could forecast the development of the serious complications, two studies were undertaken: estimations of the blood urea and the percentage estimate of the number of red blood cells that contained plasmodia.

The patient who died during the course of the malaria suggested the possible value of the determinations of the blood urea as an index of the reaction to the infection. The blood urea estimations were made as a routine before, during and after the malaria, and daily in those patients who showed toxic effects during the course. The urine was examined at the same time and was frequently found normal in spite of the increase in the blood urea. Unfortunately, the urea content of the urine was not checked in this series. A few examples of the blood urea findings are as follows:

Following the ninth chill one patient became comatose and apparently remained so for fifteen or eighteen hours before the medical attendants were notified. When examined he was semicomatose, with a blood pressure of: systolic, 138; diastolic, 70; the urine contained a slight amount of albumin, a few hyaline casts and some pus. While receiving antisyphilitic treatment, he had shown a similar reaction on a number of occasions. The blood urea at this time was 322 mg. for each 100 c.c. and the creatinin 3.2 mg. for each 100 c.c. Intravenous glucose, and glucose and physiologic sodium chlorid solution and quinin revived the patient rapidly. In spite of the improvement, the blood urea remained very high, and although the clinical findings did not support the impression of a uremia he was treated symptomatically by hot packs, etc. He died four days later, and at necropsy no abnormalities were recognized that would account for the high blood urea; the kidneys were normal, and there was no evidence of hepatic change.

Another patient was inoculated on March 4, but it was necessary to administer quinin on March 19 after the ninth chill, because of rapidly progressive weakness.

There were several patients who showed a definite increase in the blood urea who also showed signs of renal disease.

It is advisable to repeat the estimation of the blood urea at daily intervals in those who are showing evidence of toxicity, and we have followed the rule, irrespective of the clinical symptoms, of aborting the malaria if there is a continued daily increase in the blood urea. The urea estimations do not reach the high peaks that we would anticipate if the signs of exhaustion, asthenia and drowsiness were attributable to the renal involvement only. The first case quoted was an exception, and the second case is a better illustration of the group. The increase in the uric acid has been out of proportion to the increase in the blood urea on several occasions when there were no signs of exhaustion. Such an increase is at present not explicable and is the basis for a special study now in progress. The increase in the blood urea may be due to an increase in urea formation resulting from an accelerated tissue catabolism.

TABLE 3.—*Blood Urea Findings in Severe Toxemia of Malaria*

	Blood Urea — Uric Acid		Urine
3-10-25	22 mg.		
3-10-25	First chill		
3-16-25			Trace of albumin, no casts, slight amount of pus, specific gravity, 1.018
3-17-25	86 mg.	6.8 mg.	
3-18-25	76 mg.	6.9 mg.	
3-19-25	(quinin given)		
3-20-25	92 mg.	5.3 mg.	No albumin, no casts, slight amount of pus, specific gravity, 1.015
3-23-25	28 mg.	5.3 mg.	Trace of albumin, no casts, slight amount of pus, specific gravity, 1.019
3-24-25	24 mg.	4.4 mg.	

Plehn [22] has suggested that the presence of plasmodia in more than 10 per cent. of the red blood cells is the indication to check the malaria. In none of our cases has more than 5 per cent. of the red blood cells contained plasmodia at one time in the smears examined. In those who showed the most marked constitutional reaction to the malaria less than 0.5 per cent. of the cells were affected, while in one patient in whom 5 per cent. of the red cells showed plasmodia, no marked evidence of toxicity was noted. The number of plasmodia in the cell did not seem to have any bearing on the toxic symptoms in this series.

INFLUENCE OF ANTISYPHILITIC TREATMENT

The influence of antisyphilitic treatment given previous to the inoculation apparently exerted slight influence on the malaria. If there was

22. Plehn, A.: Die Malariabehandlung der progressiven Paralyse, Deutsch. med. Wchnschr. **2**:1827-1828, 1924.

any appreciable influence, it seemed that those who had not received any treatment for the neurosyphilis did better than those who had undergone intensive courses of treatment. Three of the patients who showed a complete remission immediately after the malaria had not received treatment for syphilis previously. In one patient who had had previous remissions following tryparsamide the disease showed a remission of a more decided character after the malaria. There were three patients who had had incomplete remissions from tryparsamide who have not been influenced by the malaria as yet.

Our experience with postmalarial antisyphilitic treatment agrees with that of Reese and Peter,[11] who have noted a rapid decline in the patient's general health when the arsenical preparations were given shortly after the malaria. In two cases in our series, the improvement that followed the malaria was very soon lost while one patient was receiving arsphenamin and another tryparsamide. The rapid decline immediately ceased when the intravenous medication was stopped. Marinesco and Draganesco [23] have called attention to the danger of arsphenamin provoking a previously unrecognized malaria in patients under treatment for syphilis. However, we believe that if a period of six months or more intervenes between the malaria and the antisyphilitic treatment there will be no deleterious effect. The observations of York and Macfie [12] that a soluble antigen is produced by the quinin killing most of the plasmodia might have some bearing on this reaction. It is conceivable that arsphenamin in the presence of a few remaining plasmodia causes the decline that has been noted. On the other hand, the question is still undetermined as to whether any material benefit is derived from medication at this time. Reese, Gerstmann, Kirschbaum and Kaltenbach, and Weygandt do not recommend the use of the antisyphilitic remedies in association with malaria. Purves-Stewart,[18] however, believes that sufficient evidence has been accumulated to show that, while the malaria accomplishes marked clinical results, it does not influence the serologic findings, and that the use of intracisternal medication has reversed the serologic findings satisfactorily in the patients who obtained good clinical but no serologic improvement from the malaria. It would seem that antisyphilitic medication may be used with safety six months after the malaria, but whether it is essential or not is as yet undecided.

EFFECT OF IMMUNITY TO MALARIA

A history of malaria was obtained in two of the patients who showed no improvement after the inoculation, while none of the patients who

23. Marinesco, G., and Draganesco, S.: Danger of Neo-Arsphenamin in Syphilitics with Malaria, Bull. Acad. de méd., Paris **90**:598-602, 1923.

were benefited gave any evidence of previous attacks of chills and fever. This is not in accord with other reports, and it would seem that the previous attack of malaria was not a prominent factor in the poor result in our two cases. This calls to mind the influence of immunity in malaria. Bass [21] believes that there is a relative immunity of a slight degree, but that the evidence of a lack of resistance to the plasmodia is more frequently seen. No definite postmalarial immunity was noted, although the second inoculations reported in the literature were attended by longer incubation periods and less virulent attacks. Four patients in this series aborted the malaria, following the third, fifth, ninth, and twelfth chill, and we were subsequently unable to demonstrate the plasmodia in their blood. The patient who aborted after the twelfth chill showed a decided improvement, while the other three were not benefited. The patient who aborted after the third chill died six months later in convulsions. In two patients the primary intravenous inoculation did not take, but a second intravenous inoculation of the same strain from a different patient was successful. Two of the patients who aborted were inoculated with a second strain which we failed to maintain in subsequent inoculations, suggesting a low virulence of the organism rather than an increased immunity in the patients. It is well at this point to emphasize the need of treating with quinin those patients who have been inoculated but who have not developed chills or fever, and who are not to be under prolonged observation. In all of our cases a "take" was obtained with either the first or second inoculation with the first strain. Kirschbaum and Kaltenbach [9] were able to continue eight different strains, and noted no material difference in the therapeutic effects from various strains, a finding with which Bunker and Kirby [7] do not agree.

We recommend Kirschbaum and Kaltenbach's [9] procedure and call attention to the desirability of maintaining in nonmalarial districts two patients, each with a different strain of the plasmodia going at the same time, because there is no way of forecasting when the malaria will abort and no way of preventing it.

The first strain in this series has passed through thirty-three hosts without any evidence of increase in virulence, although there is definite evidence that a lack of resistance has been shown by some patients. The incubation period averaged seven days in those who were inoculated intravenously and thirteen days in those inoculated intramuscularly. The amount of the infected blood injected did not seem to hasten the incubation period, whether 2.5 or 8 c.c. We made a practice of drawing the blood just before the anticipated chill in the donor host, although it has been shown that the inoculations are successful with blood drawn at any time and irrespective of the chills or fever.

We have not had the opportunity of inoculating a second or third time those who failed to show any improvement from the original course of malaria. Reese and Peter [11] reported a fair response to the second course of malaria when the first course failed, and Plehn [22] believes that the estivo-autumnal plasmodium effected decided clinical improvement in the second course of malaria when the first had failed.

In this series one patient had psoriasis, one hypertrophic arthritis, one a mild hyperthyroidism of the exophthalmic type, and two duodenal ulcers, besides the neurosyphilis. In none of these patients was any effect observed on the associated diseases. We made a special effort to choose for this form of treatment patients who did not show complications other than neurosyphilis, so that we are not able to determine the influence of the malaria on the cardiovascular, visceral, osseous and other complications of the disease. The patient whose unrecognized hepatitis was aggravated has already been mentioned.

It has been impossible to control this group by a parallel series of paretic patients who were not inoculated with malaria.

TREATMENT OF THE MALARIA

The rapid and easy manner in which the malaria responded to the administration of quinin is probably due to the absence of the sexual forms of the plasmodia, and to the fact that primary attacks of acute tertian malaria always respond rapidly to quinin treatment. We attribute the absence of relapses of the malaria to these facts and to the routine followed in the treatment of the malaria. Five grains (0.32 gm.) of quinin sulphate were given twice a day for a week, followed by a week without quinin. In the third week a second series of 5 grains of quinin sulphate, twice daily, was undertaken. The fourth week was another rest period, while on the first three days of the fifth week, 5 grains were administered twice a day. Another week's rest was followed by the administration of quinin for three days. The total consisted of forty 5 grain capsules in seven weeks.

There have been two successful transfers of the first strain of *Plasmodium vivax* to other institutions. The use of 5 per cent. sodium citrate, 0.1 to 0.2 c.c. of 50 per cent. dextrose solution in 10 to 20 c.c. of blood, defibrinated by agitating (Mühlens), and a combination of both have been uniformly successful, when the inoculation was made within ten hours after withdrawal.

SUMMARY

A report is made of the preliminary observations after a ten months' trial of a series of thirty-five patients with neurosyphilis who were inoculated with malaria plasmodia. As this time is too short to draw definite

conclusions regarding the value of the procedure, we have endeavored merely to relate our experience with it. The method seems to offer more immediate effects than any form of treatment heretofore used for general paralysis. Many of the patients in this group had been treated with tryparsamide, some with benefit and others without. The inoculation of patients with the *Plasmodium vivax,* who are already debilitated to some degree from their syphilis, is attended with some risk, so that it is a method for selected patients only who are under hospital care throughout the course. It is not only necessary to carry out the procedure with the patient in the hospital from the time of inoculation until three negative smears have been obtained after the quinin has been started, but measures must be taken also for the prevention of the spread of the malaria to the inhabitants of the community. The dangers of the malaria carriers must be constantly borne in mind, and all attendants must take quinin as a prophylactic during the mosquito time.

Of the twenty-four patients with frank paresis, 25 per cent. showed a complete remission that allowed them to return to their former occupations within two months after the malaria was stopped, 37 per cent. were definitely improved in one way or another, and two died, one as a result of the malaria and the other six months later in convulsions. Thus far in this series the "fever therapy" has had practically no effect on optic atrophy, gastric crises, persistent lightning pains with negative serologic findings, asymptomatic neurosyphilis and paresis sine paresi. The mental and physical symptoms are most favorably influenced by the treatment without change being observed in the objective findings. There have been no serologic changes in the blood or spinal fluid as yet.

The use of arsphenamin, mercury or tryparsamide immediately after the malaria was attended with definite evidence of relapse from remission. The majority of the complications noted were transient and disappeared with the cure of the malaria, although complications attributable directly to the syphilis may cause some embarrassment. Myocarditis, nephritis, marked weakness or wild delirium may demand the cessation of treatment.

All things considered, our results are very encouraging, so much so that we believe the method warrants an exhaustive trial.

DISCUSSION

Dr. John A. Fordyce, New York: I have had no personal experience with the use of malarial organisms, but am deeply indebted to Dr. O'Leary for his comprehensive and scientific paper, which will act as a guide and furnish us with the necessary precautions in treating these patients. I have recently seen Professor Kraepelin and Professor Plaut, who have for several years observed a series of cases of paresis treated in this way. Professor Kraepelin

is probably the best authority in the world on paresis, and he is convinced that this is the best possible method of treatment. I have under my care a large number of paretic patients, and if I can get the malarial organisms I shall try the treatment.

Dr. Samuel E. Sweitzer, Minneapolis: Dr. O'Leary was kind enough to bring some of the malaria to Minneapolis, and we inoculated three patients. All three had positive takes, and one patient with stumbling speech has become much more intelligible. We found it necessary to interrupt the treatment in one instance. As Dr. O'Leary said, there is no regularity in the occurrence of the paroxysms; some patients have them every third day and some every day.

Dr. Udo J. Wile, Ann. Arbor: One of the most striking things Dr. O'Leary brought out is the fact that the improvement which has occurred in his group of cases has not been paralleled, at least for the moment, by similar changes in the spinal fluid. I believe that is true of all types of treatment directed to this type of case, and I think it indicates clearly that clinical cure or clinical improvement is not paralleled by so-called biologic or serologic cure. In the patients we have been treating with tryparsamide we have shown, and it has been shown in other places, that patients have been improved beyond the point they might be expected to improve by mere remission, but that this has not been paralleled by changes in the spinal fluid and blood. The same holds, true, I think, in the so-called Wassermann-fast cases.

I think such work is instructive, not only as bearing on the use of a single remedy, but also on the so-called parallelism between clinical and biologic cure.

Dr. Frederick D. Weidman, Philadelphia: It is well known that a simple hyperpyrexia may cause the expulsion of worms from the intestine. It has been known for years that in malaria these worms are expelled by the anus, and in many instances cases of worms are cured in this way. This knowledge has just been applied by Rivas to the cure of patients who have worms. Hot water by the duodenal tube has cured hookworm in dogs. The simple element of heat is specific in curing these parasitic diseases of the intestine, and it may be that the heat is a factor in the cure of syphilis.

In the original attempts at the culture of malarial organisms no results were obtained until the blood was centrifuged and the leukocytes removed. Perhaps in transferring blood from one patient to another we may be more successful when the blood has to be preserved for a time if we keep in mind this point about centrifuging the blood.

Dr. Augustus Ravogli, Cincinnati: In one case a patient showed a severe papular syphilitic eruption when recovering from typhoid fever. While sick with the typhoid condition, he did not show the syphilitic symptoms. It may be that the typhoid infection kept down the spirochetes, and they had no chance to develop during the attack. Examination revealed a hard chancre in the penis, slowly healing, which had passed unobserved when the patient was admitted to the hospital for the treatment of the typhoid fever.

Dr. Fred Wise, New York: I wish to ask whether neurosyphilis is much less common in countries afflicted by malaria, such as Siam, for instance.

Dr. Paul A. O'Leary, Rochester, Minn.: The reports in the literature lead one to believe that the serologic reversals appear several years following the course of malaria; also, that the clinical improvement precedes by several

years the serologic changes. It is of interest to note that the reports by various investigators throughout the world show some improvement in the patients treated. The point brought out by Dr. Weidman has been studied by Weichbrodt and Jahnel. They report that the inoculation chancres in rabbits rapidly involuted when the rabbit was subjected to temperatures of 42 C. on successive occasions. They likewise have studied brains of paretic patients who died during malaria treatment, and they are inclined to feel that the fever itself is the cause of the therapeutic results.

We have no suggestions to offer at this time as to the mechanism by which these results have been obtained.

THE TEACHING OF DERMATOLOGY IN OUR MEDICAL SCHOOLS*

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At the present time our system of medical education is undergoing a searching examination by our most noted medical authorities. There is considerable discussion particularly with reference to the medical school course and the preparation which it gives for the practice of medicine in general. There is much criticism of various phases of our medical school curriculums. These are undoubtedly the prodromal symptoms of changes, perhaps important ones, in our methods of instruction or in the arrangement of the courses. It is timely, therefore, to pause a moment in our study and discussion of the scientific and clinical phases of dermatology to review the system employed by our medical schools in imparting dermatologic knowledge to the undergraduate medical student, and at the same time to consider the relation of dermatology to the general medical course. It is not my purpose to speak of the progress of our teaching in the past, or the trend in the future, but rather to present the situation as it exists at present. With such information we can participate in the present day discussion more intelligently and contribute our share to the improvement of medical education.

As a source of information about our present teaching methods in dermatology I have reviewed the most recent catalog of our medical schools, limiting my investigations to the Class A (medical) schools, according to the classification of the American Medical Association. These schools are assumed to have, with this classification, adequate teaching methods, equipment, clinical facilities, etc. I realize there are certain limitations to such a long distance investigation. It is evident that recent changes in a given school may not have been incorporated in the catalog at hand. It is also realized that there is difficulty in condensing into a comparatively small space a good conception of the teaching methods employed in a particular school. It is also impossible to estimate the clinical facilities which are such an important part of dermatologic teaching. It is difficult to interpret the personality of the personnel or the individual systems of instructing the students. It is possible, perhaps, that some catalogs may express the ideal rather than the

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actual. In spite of these facts the catalogs furnish material at least for a preliminary survey of the present teaching, and serve as a basis for starting the discussion of the subject. Syphilis has been included as an essential part of the teaching of dermatology.

There are, according to the latest figures of the American Medical Association, eighty medical schools in the United States. One school has recently been suspended, six are not recognized by the licensing boards of forty-three or more states, eleven have no clinical teaching, and three more are Class B schools. There remain fifty-nine Class A medical schools which are to be considered in this estimate of dermatologic teaching. In three schools, I have been unable to obtain recent catalogs.

It is natural to expect wide variations in the quality and quantity of any teaching if one considers only certain physical characteristics of the schools, namely, that the size of these schools varies from eighty-nine to 597 students, and that they are located in cities varying in size from 10,600 to 5,000,000, with a similar variation in the size of faculties, hospital facilities, amount of money available for medical school purposes, etc. One can expect to find, therefore, great variations in these schools in the teaching of dermatology and syphilis.

RELATION TO CURRICULUM

If the curriculums of these schools are examined to ascertain the period when dermatology is taught, it is found that of a majority of the schools,

28 teach dermatology in both the third and fourth years.
18 specify dermatology only in the fourth year.
4 only in the third year.
3 teach the subject in the third year, and mention dermatology as one of the elective courses of the fourth year.
1 school teaches skin diseases in the second and third years, and places the subject among the electives of the fourth year.
In 1 school it is surprising to find that dermatology is not required apparently, being given only as an elective in the fourth year, although this school gives sixteen hours of lectures in syphilis in the fourth year.
1 catalog does not give any definite data in regard to dermatologic teaching.

DEPARTMENTAL RELATIONS

The department of dermatology, for administrative purposes in our medical schools, is classified in many different ways.

In 18 schools there is a separate department of dermatology and syphilis.
In 15 schools there is a department of dermatology.
In 6 of the latter schools, syphilis is included in the teaching of the department.
In 6 schools there is no mention of syphilis in the catalog.

In 1 school with a department of dermatology, syphilology is under the department of surgery, with an associate professor of surgery in charge.

In 1 school it is under the department of genito-urinary diseases with a professor of genito-urinary diseases and syphilis.

In 1 it is under the department of medicine with an associate professor of clinical medicine (syphilis).

In 15 more schools dermatology is taught under the department of medicine. This relationship of dermatology to the department of medicine in some instances apparently is a nominal one, and in other cases the dermatologic teaching is carried on by members of the medical department.

In 6 schools of this group there is a division of dermatology and syphilis.

In 4 schools there is a division of dermatology alone, in 2 cases syphilis being included under the department of surgery.

In the other 2 schools syphilis is included in the division. One of these two schools places the division of dermatology under the department of medicine and medical specialties.

In 3 more of the schools under the department of medicine the teaching is done by a professor and instructors of dermatology listed among the members of the department of medicine.

In 1 of these schools syphilis is included, and in the catalog of the other 2 it is not mentioned.

In 1 school there is a professor of dermatology and syphilis in the medical department.

In 1 school there is a department of medicine with a division of dermatology and contagious diseases, but there is no mention of syphilis.

In a few schools, 3 in number, dermatology is taught under the department of surgery.

In 1 of these schools there is a division of dermatology and syphilis with a professor of dermatology.

In 1 there is a division of dermatology under a professor of dermatology, but syphilis is not mentioned.

In 1 there is a department of dermatology under a professor of surgery and dermatology, but no mention of syphilis.

In 5 schools, each has an organization different from the foregoing:

In 1 school there is a department of dermatology and urology.

In 1 school there is a department of dermatology and syphilodermatology.

In 1 school there is a department of dermatology and venereal diseases with a professor of dermatology.

In 1 school there is a department of dermatology, electrotherapy and radiology, with a department of genito-urinary diseases and syphilology.

In 1 school there are separate and distinct departments of dermatology and of syphilis.

SYPHILIS IN THE CURRICULUM

Reviewing these facts again with reference to syphilis it is found that:

In 38 schools syphilis is taught with dermatology.

In 18 as a separate department.

In 10 under the department of medicine.

In 6 under the department of dermatology.

In 1 under the department of surgery.

In 3 as the department of dermatology and urology, the department of dermatology and venereal diseases, and the department of dermatology and syphilodermatology.

In 3 schools syphilis is under the department of surgery, two of these being in the section on genito-urinary surgery, and in the other taught with dermatology.

In 2 schools syphilis is in the department of genito-urinary diseases.

In 1 school it is under the department of medicine.

In 1 school it is a separate and distinct department.

In 11 catalogs there is no mention of syphilis. In a few of these, venereal diseases are mentioned under urology or genito-urinary surgery, and it is probable that syphilis is included in these courses.

Almost half of our schools, then, have a separate department of dermatology and syphilis, or dermatology including syphilis. There are many of our schools in which dermatology is still organized under some other department.

PERSONNEL

The personnel naturally varies in number, the chief factors being the size of the school and the method of teaching syphilis. The total number of teachers of dermatology and syphilis is 259, or rather, this is the number of teaching positions in Class A schools. A few of these persons teach in more than one school. It has not been possible to ascertain accurately in all schools the number of persons teaching syphilis. In nineteen schools, there are two persons with a rank of professor or associate professor of dermatology; in five schools, there are professorships of both dermatology and syphilis; in one syphilis is under medicine, in two it is under genito-urinary diseases; in one it is under surgery, and in one there is a separate professor of syphilis. The teachers are distributed as follows: 4 schools, 1 teacher; 14 schools, 2 teachers; 7 schools, 3 teachers; 6 schools, 4 teachers; 7 schools, 5 teachers; 5 schools, 6 teachers; 3 schools, 7 teachers; 4 schools, 8 teachers; 2 schools, 9 teachers; 2 schools, 10 teachers; 1 school, 11 teachers; 1 school, 15 teachers.

TEACHING METHODS

As far as the actual teaching methods employed in the various schools are mentioned, there are many combinations of methods—lectures alone, clinics alone or with didactic lectures, etc. In their catalogs, thirty-four specify clinics, thirty-three specify lectures, which I interpret to mean without patients, twenty-six indicate teaching to small sections in the dispensary, but I assume that more schools include this method of teaching. In addition to the foregoing, two schools indicate lectures in dermatologic pathology. Two indicate recitations or recitations and conference. Two specify clinical clerkships, others specify lectures and quizzes, lectures and recitations, etc.

NUMBER OF HOURS

The number of hours devoted to the study of dermatology and syphilis is difficult to determine from the catalogs, and it is, quite naturally, open to discussion whether the number of hours, on paper, furnishes any correct estimate of a given course. Flexner has rightly said that the differences between American medical schools are far greater than the difference between their time cards. Nevertheless, in our examination of the present teaching of these subjects, it is of interest to tabulate the time given to the teaching.

In 7 schools there are apparently more than 100 hours in the four years devoted to teaching dermatology and syphilis.
  In 3 of these the subject of genito-urinary diseases is included.
In 12 schools between 80 and 100 hours are allowed.
In 13 schools between 60 and 80 hours.
In 13 schools between 40 and 60 hours.
In 8 schools only 20 to 40 hours are allowed.
  In 2 of these the time allowed is 25 and 24 hours. It is only fair to say that the time given in 3 of these schools is undoubtedly larger, since the number of hours is not stated definitely.
In 1 school only 16 hours of syphilis but no dermatology is required.
In 2 catalogs the amount of time is not given.

In several schools it is impossible to calculate accurately the time spent on these subjects. The longest time given to this study is apparently 122 hours, and the shortest is twenty-four hours. The average time is about sixty-five hours, omitting the three schools in which genito-urinary conditions are taught with these subjects.

In twenty-three schools, in which the total number of hours of teaching is given, it is found that the amount of time given to dermatology varies from 0.9 per cent. to 2.8 per cent. of the total time given to the teaching of all subjects. Of course, in the first two years a little of the time in histology, in chemistry, physiology and bacteriology is devoted to the skin, but even if the laboratory work of these two years is excluded and only the clinical work is considered, from 2 to 5 per cent. of the time is given to dermatology and syphilis.

AVERAGE DERMATOLOGIC COURSE

The average course in dermatology in our medical schools, then, is somewhat as follows: It is given in the third and fourth years, and in most instances by a separate department of dermatology and syphilology, or at least the department includes the subject of syphilis. The average number of teachers of dermatology and syphilis in a school is five. The number of hours given to dermatology and syphilis is about sixty-five, or 1.5 per cent. of the total medical school work. This teaching is usually carried on by both lectures and clinics, and most of the schools give clinical instruction to small groups.

OCCURRENCE OF DERMATOLOGIC CASES

With these qualifications in mind, it has interested me to investigate the frequency of dermatologic cases. At least I wish to contribute my own personal experience, and to offer the statistics of a large general hospital.

In the first place, in the general practice of medicine for eight years, in a total of 6,245 different diagnoses which were made, 310 were skin affections. This would constitute 5 per cent. of the total diagnoses made. These statistics were rather carefully kept except for a short period of from three to four months, and while I can see that the experience of some of my neighbors would vary somewhat, I offer these figures as an example of the frequency of dermatologic manifestations in general practice.

In the second place, I have reviewed the statistics of the Massachusetts General Hospital outpatient department for the last ten years. In this period there were 285,387 new cases admitted to the outpatient department, and 24,476 of these, or 8.6 per cent., were admitted to the skin department. If the admissions to the syphilis outpatient department are included, there were 36,566 new patients with skin diseases and syphilis, or 12 per cent. of the total admissions to the outpatient department. This does not include the transfers from other departments, which would more than balance the few cases admitted to the clinics which really do not belong there.

In the third place, I have obtained the figures of the same hospital in regard to the admission of bed patients. This hospital is listed in *The Journal of the American Medical Association* hospital number as a 377 bed hospital, and has a twenty bed ward for skin diseases and syphilis. From June 1, 1922, to April 17, 1925, there were 19,153 admissions to the hospital, and 563, or 2.9 per cent. were admitted to the dermatologic service; and 1,100, or 5.7 per cent., were admitted to both the dermatologic and syphilologic services.

From these sources there is indicated a frequency of from 5 to 12 per cent. of all patients presenting signs of skin affections and syphilis. This is considerable variation from the amount of time given to instruction in these subjects (1.5 per cent.). One must not assume immediately from this discrepancy that the correct solution is to increase the amount of time given to study of the subjects; there are many other factors which go to make up the proper instruction. Longer time will not wholly outweigh insufficient clinical facilities, poor individual instruction or inadequate equipment. In addition one must overcome the indifference on the part of the student to an apparently minor course, the confusion existing in our terminology and nomenclature, the apparent infrequency of cutaneous manifestations, etc.

It is said that some of our schools are producing the type of graduates who will devote their time to special work—medicine, surgery, etc., to public health work, to institutional work, etc., but I believe that the majority of our students still intend to do general medical work, and it is for these that the courses of most of our medical schools are designed. But whatever the work a man intends to do, it is right that he should have a knowledge of certain essentials in various special subjects. And that these essentials are either forgotten early, or else improperly taught, can be confirmed in our clinical experience at almost any time. The question, then, is what can be done to give each medical student a better knowledge of dermatology and syphilology? I do not necessarily mean in all the schools, but in general. Is it a matter for the individual head of the department in each school to work out in his own way, or is there anything which we as an association can do in the way of suggesting a standard course in dermatology and syphilology, or at least the minimum requirements for the proper teaching of these subjects? I find that in a suggested schedule which was published in 1909 by the Council on Medical Education and Hospitals ninety hours was given as the total number of hours for dermatology and syphilis. There are only thirteen schools which have fulfilled this suggestion. There are other questions which arise, but it is necessary that we interest ourselves more in the present discussion and be ready to add our suggestions for the development of teaching in our special department.

AUTHOR'S SUGGESTIONS

My own personal suggestions as a result of this survey include the following:

More schools should teach these subjects in both the third and the fourth years. The value of repetition in any teaching is great.

More schools should teach dermatology and syphilology together.

Many schools should devote a larger number of hours of instruction in these subjects.

Emphasis should be placed on teaching in small groups, in clinics, in recitations or quizzes, etc.

In schools with small clinics, in order to compensate somewhat for this need, there should be more didactic teaching with the aid of photographs, recitations, quizzes, or other methods of repetition of essential factors. There is, however, no adequate substitute for clinical teaching in small sections.

I realize that the cold print of the catalogs does not give an adequate estimate of the teaching of dermatology and syphilology in many schools and that the data on the frequency of cutaneous disease require confirmation. At the same time it is well worth while to study with care

the medical school curriculum and the relation of dermatology to it, with an eye to the improvement of the teaching of this subject in our medical schools. I hope that these few figures will provoke a further discussion of the details of our teaching methods, and make us ready to participate more actively in the changes in our medical schedules which must occur as a result of the present agitation.

DISCUSSION

Dr. John H. Stokes, Philadelphia: I feel that dermatosyphilology should have adequate recognition in the curriculum, not only because of its difficulty or because a large share of the work that comes to the average practitioner will be dermatology; I feel that it should have recognition as an illustration of a teaching method. The objective approach to medical problems is an invaluable one in general medicine, and its universal adoption would do much to reduce important sources of diagnostic error. The impressions of the value of this method which I received from so distinguished a teacher as Dr. Wile have only been enhanced by my subsequent observations. The partial or inadequate examination and the tendency to allow the patient to make his own diagnosis by way of the chief complaint are two of the weak points in modern medical practice which dermatosyphilology can do much to strengthen.

Dr. Augustus Ravogli, Cincinnati: It is interesting for the Association to take up this subject. I agree thoroughly with the essayist that one year of teaching in dermatology and syphilology is enough.

Dr. Harry G. Irvine, Minneapolis: I was much intereseted in this paper of Dr. Lane's. About ten years ago, I became interested in this subject, but from the standpoint of teaching syphilology as well as dermatology. I had the feeling that the study of syphilis was being badly neglected and was, perhaps, more important than dermatology. At that time, instead of taking the catalogs, I visited ten or twelve of the Class "A" schools and tried to find out in a visit of two or three days what they were doing. I have recently visited nine Class "A" schools in this country and three in Canada. I think two or three points are worthy of mention.

I find that many schools with large clinical material make very little use of it. It appears that one thing is said but another done. It is hard to judge from the standpoint of a catalog alone what is actually being done. Some schools with a small amount of material come in close personal contact with the students and work up the material very well, so that students actually get better work than where there is a large amount of material. While this paper was excellent, it does not bring out entirely what information concerning dermatology and syphilis the student really obtains.

Dr. Thomas C. Gilchrist, Baltimore: Some years ago the Johns Hopkins Hospital took up the idea of Dr. Welch that a patient comes to the hosptial for cure and not for teaching purposes. When the syphilitic patient was shifted from one department to the other, the patient was not being treated well. Now patients with syphilis are separated from those with dermatologic diseases and are treated in the same department throughout. Of course, the patients appear in this department first for teaching purposes and diagnosis, and they receive their treatment in the one department. The second part being elective, the student who wishes to be a pediatrician, an anatomist and so on, thinks he does not require any knowledge of dermatology.

Another thing we have tried with considerable success is to take pictures of typical cases, run prints off the plates and hand them to the students. We have found this to be of great benefit, for the student, not having seen the patient and gone over the disease, finds the photograph of much advantage.

Dr. William T. Corlett, Cleveland: After a long experience in teaching syphilology and dermatology, three things have impressed me: One is that the department of syphilology and dermatology should be a separate department, not under any of the so-called major departments in the university. The second point refers to the teaching of dermatology. In my early experience as a teacher, I believe I dwelt too long on the unusual subjects which the general practitioner could not, from the time allotted to the subject, fully comprehend. I think it is a mistake in clinical teaching to an undergraduate class to take up subjects that the general practitioner cannot readily assimilate. I think we should confine ourselves rather to the general principles or foundations of dermatology and syphilology and exclude as much as possible the rare and discussable subjects that come up. The third point is that I have taught many things that are not so. Dermatology, with medicine, changes from decade to decade, and I think the great object to keep in mind is to confine oneself solely to the fundamental things that are established, and while these may not be like the laws of the Medes and the Persians which change not, yet they are in general harmony with the general precepts of medicine in vogue at the time.

Dr. Harold N. Cole, Cleveland: I think Dr. Lane's paper is timely, and I was much impressed with his figures showing the percentages of time spent in teaching dermatology and syphilology. As we look over the catalogs of the medical schools, we find that much time is spent on the late manifestations of syphilis, syphilis of the brain, syphilis of the aorta, syphilis of the heart, and so on, while perhaps in the same school little time is spent on the diagnosis and treatment of syphilis at the time when one can really do something with it. This is where most medical schools are making their mistake today, and I feel that we should lay the emphasis on the early stages when the patients may be cured; then there will not be such great necessity for the long, laborious courses later in the medical curriculum. Thanks to Dr. Corlett, we have such a condition in the Western Reserve University. Syphilis is there treated in the one department. If other manifestations come up, the patient is referred to the suitable department for that. It is sometimes hard to say where a patient should be placed, but certainly he should be treated in the one department.

Dr. William B. Trimble, New York: In New York University, I think we have about the average number of hours of the general average of medical schools, and for a number of years past we have had the entire course of dermatology and syphilology in the fourth year. It was deemed wise during the past year to transfer this to the third year. I made no protest, for I was somewhat apathetic and thought it made no difference whether these subjects were taught in the third or in the fourth year. After one year, however, I am thoroughly convinced that the third year student is not far enough advanced to learn what we wish to teach him. I do not believe the students are capable of learning these subjects properly in the third year, and I feel that they should be taught them in the fourth year.

Dr. John A. Fordyce, New York: I think Dr. Cole's point is well taken, and that the late manifestations of syphilis depend largely on the man who sees the case first. We endeavor to emphasize this to our students. It is interesting to examine a late case of syphilitic aneurysm, but if the student realizes that proper early treatment will eliminate such diseases such cases will become much

less frequent. I think this should be emphasized everywhere to the students. It is difficult to organize a good department of dermatology and syphilology in a medical school, because of lack of proper support. It is difficult to obtain an adequate budget. It is usually necessary to obtain a budget that is three or four times as large as that furnished by the school. The only way we have been able to do this is by having some of our grateful patients help us with contributions.

Dr. Arthur W. Stillians, Chicago: It seems to me important that these subjects should be brought up in the third year in order that the students may have some experience with dispensary work. We give our dispensary work in the third year and a didactic course and in this way the fouth year clinical work is, I think, of much more value to them than it would be otherwise.

Dr. C. Guy Lane, Boston: In the few things of historical interest which I ran across in looking up the material for the paper I happened to come across Dr. White's presidential address, which was printed in 1878. There were only sixteen teachers of dermatology then, four professors, five clinical professors, one instructor and six lecturers. In that address Dr. White spoke of the fact that in 1868 there were no recognized teachers of dermatology in this country.

I was much interested to hear Dr. Irvine's account of his visits to the various colleges. That is the only way of obtaining accurate information concerning the actual methods. The catalogs will not give this information, but they serve to start the discussion.

I was glad to hear Dr. Stokes talk about the fundamental teaching of dermatology as part of the regular medical training, and I agree that such methods need much more emphasis.

ERYTHEMA MULTIFORME

REPORT OF A CASE WITH NECROPSY FINDINGS AND DEDUCTIONS *

ERNEST L. McEWEN, M.D.
CHICAGO

The case herein reported, though having to do with a rather common skin disorder, presents certain features which are of distinct significance. It is not usual that an erythema multiforme is observed as a link in a morbid chain that ends in death; nor is it less unusual that a case in which such conditions were found should come to necropsy. The nature of the symptoms and their gradual steplike development mark the case as one of slowly evolving infection, and the relationship which apparently obtained between the cause of the skin eruption and the cause of death suggests the timeliness of a consideration of septicemia lenta as a factor in the etiology of skin diseases.

REPORT OF CASE

Miss N. S., Swedish, aged 25, a baker, sought advice the latter part of May, 1921, concerning an eruption on the face. This had begun about four weeks previously during a period of depressed health, her general symptoms at the time having been muscular pain and stiffness in the arms and legs, puffiness at times of the hands and feet, occasional night sweats and a constant sense of fatigue. The eruption at first was made up of a number of discrete, erythematous, slightly pruritic lesions about the center of the face; these had gradually extended, so that when first seen the lower part of the forehead, the cheeks, the nose, the ears, the upper lip, and the upper half of the chin were involved in a sheet of erythema, sharply demarcated, slightly infiltrated, and slightly scaling. Parts of the eyelids were unaffected; the sense of burning was more marked than that of itching. On the index and middle fingers of each hand were a number of discrete lesions of the same type; the rest of the body was free from eruption, but an alopecia, apparently of toxic origin, was present. The diagnosis of the skin condition was clearly erythema multiforme. The significant findings on general examination were as follows: Both father and mother had died of heart disease; there were nine brothers living and well; conditions of life in childhood had been severe; during a war time year in Sweden, her diet had been greatly limited; the lungs, heart, abdomen, nervous system and pelvic organs were normal; the muscles of the legs and arms were sore to pressure; the tonsils were large, very red, and the right one definitely infected; the gums were the seat of a severe erosive gingivitis; dead teeth, bridgework and pyorrhea were present; the sinuses were clear; the urine showed a trace of albumin; the blood was negative except for a low hemoglobin content; and a slight afternoon temperature was present.[1]

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* Read at the Forty-Eighth Annual Meeting of the American Dermatological Association, Washington, D. C., May, 1925.

1. In addition to my own examination, the patient was gone over at the Diagnostic Unit, St. Francis Hospital, Evanston, Ill. Later her medical care was in charge of Dr. Robert Keeton; the operations were performed by Dr. G. W. Boot and Dr. I. S. Chilcott.

In the treatment of the skin condition the usual remedies failed to effect more than a transitory improvement. The tonsillar infection was regarded as the probable cause; whether the gingivitis was primary, a part of the throat infection, or secondary, an expression of generalized infection, and whether extreme measures should be taken with respect to the teeth, were questions concerning which opinions were not unanimous. As a result of this situation, nothing more than local treatment was undertaken for the mouth condition. After a number of weeks the patient consented to a tonsillectomy, and cultures from the infected tissue removed showed a heavy growth of *Streptococcus viridans*. Within three weeks the skin eruption had disappeared, except for a slight pigmentation; the gingivitis and alopecia, though still present, were greatly improved, and the muscle pains were felt only occasionally.

About August 1, the patient dropped from view for a little more than two months. Early in October, following a cold, the muscular pain recurred with such severity as to make it impossible for her to continue at work. The heart showed slight dilatation, and a systolic murmur was present, together with a persistent low afternoon temperature. She was hospitalized for a period of ten weeks, during which she passed through a sharp attack of rheumatism of the muscular rather than of the arthritic type, attended with high fever, grave involvement of the heart muscle, intercurrent unilateral parotitis, and a recurrence of the severe gingivitis. The heaviest possible medication usual in such cases was given, and by Christmas time she was able to leave the hospital greatly improved but not fully recovered. Unfortunately, the conditions to which she returned were bad, and a relapse promptly occurred. During the last week in January, she was readmitted with a badly decompensated heart, a double mitral murmur, enlarged cardiac dulness, hoarseness, cough, ascites, edema of the dependent parts and scanty urine. Despite strenuous treatment her decline was rapid. A Talma operation failed to establish a collateral abdominal circulation, the urine became loaded with pus, double hypostatic pneumonia developed, and death occurred in a little more than two weeks.

Fortunately, in view of the earlier clinical course of the case, necropsy was secured. The findings were as follows: hydrothorax; partial left fibrous obliterative pleuritis (old); double hypostatic pneumonia; hydropericardium; multiple petechial hemorrhages in endocardium near mitral valve; marked degeneration of the heart muscle; nutmeg liver; hydroperitoneum; laparotomy wound with stitch abscess; and right pyelitis and ureteritis, with multiple petechial hemorrhages. Cultures were made of the heart blood and of the contents of the right kidney pelvis; the former gave a pure growth of *Streptococcus viridans*, the latter a heavy growth of the same organism with a few colonies of colon bacilli. It is apparent therefore that the cause of death in this case was a slowly evolving systemic infection, a septicemia lenta, with *Strepococcus viridans* as the effective agent—the same organism which was found originally in the tonsils and which in the earlier clinical period of the case stood in causal relation to an eruption of erythema multiforme.

COMMENT

The relationships here apparent and the fact that the symptom which first caused the patient concern was a skin eruption, suggest two lines of inquiry. The first is: What is the part actually taken by systemic infection in skin diseases, particularly by the slowly progressive and initially mild types which may be grouped under the term septicemia lenta? It is being demonstrated more and more conclusively that

organisms within the body, by the products of their metabolism or disintegration, and by mechanical action, are responsible directly or indirectly for numerous and varied symptom groups, many of which though looked on as disease manifestations are essentially protective body reactions. Conversely, more and more is the physician justified in assuming that infection, directly or indirectly, is the most probable cause of any symptom group with which he may be dealing. This statement finds confirmation in the conception and increasing acceptance of the idea of focal infection. The skin by reason of its extent, its structure and its functions, is predestined to be the organ for the expression of a large number of manifestations which must be regarded as body reactions against harmful agencies within. Keeping in mind the fact that infection may produce primary and secondary effects, we are compelled on *a priori* grounds to regard germ action as probably constituting the major element in the etiology of the "internal" factor in skin diseases. A strong argument for this position is found in the constancy and importance of skin symptoms in certain well recognized infectious diseases, such as, among others, the acute exanthems, syphilis, tuberculosis, leprosy, typhus, typhoid, anthrax and glanders. When in the light of our knowledge of these diseases we consider certain more or less severe conditions hitherto regarded as strictly within the domain of the dermatologist, such as the various forms of pemphigus, dermatitis herpetiformis, lichen planus, lupus erythematosus, pellagra, and herpes zoster, we are drawn toward the conviction that eventually the proof will be made conclusive that these too are the result primarily or secondarily of infection.

For the expression "septicemia lenta" here used to connote a possible etiologic background in dermatology, the broadest meaning is taken. It is assumed that the septic elements are in the blood stream either constantly or intermittently, and that they consist of organisms or their products or both. Further, the idea is contained that the condition is one of slow evolution and therefore mild in the beginning. In general the degree of body reaction is the measure of the degree of severity of infection, and organisms of low pathogenic power may be the cause of symptoms of a sort that would escape recognition at first as reactions against infection. When symptoms are seemingly insignificant or commonplace, we miss the stimulus of the serious or the striking, and we lack the urge to search for causes in unexpected or unusual places; but the known facts of the phenomena of metastasis, and of allergy, and our knowledge of the inevitable interlocking of abnormal body conditions all argue profoundly in favor of the thesis that septicemia lenta is a most important though often hidden factor in the etiology of skin diseases.

DISCUSSION

DR. HERMANN GOLDENBERG, New York: The picture drawn by Dr. McEwen, with its concomitant symptoms of arthritis, lesions of the mouth and fatal outcome, reminds me of a type of disease of which I and my associates, Dr. Highman and Dr. Rosen, have observed ten or twelve cases. All but one occurred in women between the ages of 18 and 38, and all ended fatally. I classify these with the lupus erythematosus group, and especially with that type of lupus erythematosus, acutus d'emblée, which was not preceded by or accompanied by the discoid type. Ehrmann, in his masterly article on lupus erythematosus, differentiates this type from "lupus erythematosus disseminatus cum exacerbatione acuta." I have before me a reprint of an article by Drs. E. Libman and B. Sachs, entitled "A Hitherto Undescribed Form of Valvular and Mitral Endocarditis," published in the *Archives of Internal Medicine,* June, 1924, in which they report four cases, in three of which there was an eruption similar to that described by Dr. McEwen. I have observed these cases with Dr. Libman. Let me cite the description of one:

"A girl, aged 10½ years, observed in June, 1911, ten weeks before admission developed pain in both wrists, elbows and shoulders. Fever had been present from time to time since the onset. During the week preceding admission to the hospital the articular pains became less intense, but the patient began to complain of precordial pain, cough, shortness of breath and palpitation. On the skin of the bridge of the nose, extending laterally over both cheeks, there was an erythematous eruption of butterfly pattern, which resembled acute lupus erythematosus disseminatus. The skin of the upper part of the anterior aspect of the chest showed patches of erythema."

This patient, like the three others, succumbed, and at necropsy the peculiar heart lesions were found. Two of their four patients had erythematous lesions in other parts of the body and one also showed ulcerative lesions of the buccal and lingual mucosa. A third patient had an eruption involving the entire trunk and extremities, characterized by irregular blotches of purpura interspersed along areas of erythema.

In one of my own patients with acute bullous lesions on the face, the same organism, a streptococcus, was found in the contents of the bullae and in the blood.

The fact that these erythematous and purpuric lesions undergo involution by desquamation and fade so that they disappear at times, does not speak against lupus erythematosus acutus d'emblée, but is rather the rule in contradistinction to lupus erythematosus discoides. I believe that the case presented by Dr. McEwen belongs to this type.

At necropsy in a few of these cases no signs of tuberculosis were observed.

DR. J. FRANK SCHAMBERG, Philadelphia: I wish to emphasize the general statements of Dr. McEwen and place on record a remarkable case that was under observation some months ago. A man had a palm-sized lesion on the sole, and after about six weeks developed a generalized outbreak of pustules over the arms and legs and buttocks. The lesions rapidly became necrotic, and there was much ulceration. The temperature was subnormal, and there was severe gastric disturbance. Under injections of mercurochrome-220 soluble, these lesions promptly underwent involution. Under the most irreproachable technic we isolated the streptococcus. After a week the gastro-intestinal symptoms were so severe that he was transferred to the medical ward, where they found microscopic blood in the stools. A surgeon who was called in said the man was in extremis and that all surgical intervention was out of the question. Under hypodermoclysis and the usual restorative means, this patient recovered.

We have here a case of septicemia somewhat similar, perhaps, to the type referred to by Dr. McEwen, with extensive embolic deposits in the skin, and in all probability similar deposits in the mesentery or wall of the intestine, leading to hemorrhage and collapse.

DR. WILLIAM B. TRIMBLE, New York: When Dr. McEwen was describing his case, I was struck with its similarity to certain cases presented at local meetings in New York. They are seen rather frequently and are generally diagnosed as lupus erythematosus disseminatus. All of these cases do not go on to the unfortunate end described by Dr. McEwen, but in many of them the skin manifestations are practically identical. I have never believed that the majority of them belonged to the type of lupus erythematosus disseminatus, but rested on that for want of a better name. Two of these cases went on to necropsy, and we found the tubercle bacillus in the lung of both of them. These patients ran a high temperature and coincided with the cases which are shown most frequently with the diagnosis of lupus erythematosus disseminatus.

DR. WILLIAM H. GUY, Pittsburgh: Dr. McEwen's case is very much like those described in the endemic which we had an opportunity to study under rather unusual circumstances in camp. In the early part of the war we had forty-seven cases that were fairly typical examples of erythema multiforme. These patients were put to bed and their condition cleared up rather promptly, but they returned a few days later with another attack. We started to study them with cultural methods, and, as is usually the case, there were all types of infection in the throat and tonsils. Most of them showed some type of inflammatory change in the tonsil. Then we cleaned the throats thoroughly, and obtained almost pure cultures of *Streptococcus viridans* deep in the tonsils. Then it was decided to remove the tonsils in these cases, and on their removal we were much gratified to find that the recurrence of the attacks of erythema multiforme ceased.

DR. SAMUEL E. SWEITZER, Minneapolis: This paper reminded me of a somewhat similar case seen last year during the smallpox epidemic. This patient presented a tremendous eruption of erythema multiforme type on the face and on the neck; the eyes were swollen shut, and a diagnosis of erythema multiforme was made and salicylates administered. In about two weeks, the skin eruption faded entirely, and the patient was then sent to the medical side, where they made a diagnosis of septic endocarditis after the skin was clear. The patient died in about three weeks. Blood cultures were negative, but necropsy disclosed streptococci in the sections of the heart.

DR. UDO J. WILE, Ann Arbor: Dr. McEwen is to be congratulated, I think, on having been able to determine the infective agent for this case of bullous erythema, and on following it to necropsy. I believe it proper, however, to state that frequently such cases exist in which it is not only impossible to determine that one is dealing with sepsis, but clearly possible to determine that the condition is one of toxemia. We have had a number of cases of erythema of the type Dr. McEwen has described in which the most careful examination has failed to reveal a bacterial infection of the blood, there was no septic curve in the temperature, and, furthermore, the patients did not manifest leukocytosis.

Perhaps the best proof that such erythema may be toxic as well as septic is the fact that one may get the same picture in iododerma, which is not septic, but a reaction on the part of a susceptible person to the presence of a particular drug.

DR. CHARLES M. WILLIAMS, New York: The paper was interesting as showing one cause of erythema multiforme. I agree with Dr. Wile that we may have many causes. The purpose of the clinician is to find out whether it is septic

or toxic, which is much easier to say than to solve. In one particular case I was looking for a focus of infection which I thought was in the tonsil, and at necropsy nothing else was found as a focus. The possibility was that the patient may have had a septic tonsillitis, and before the tonsil was removed there had been a septic endocarditis started. The interesting point, which is common in many of these cases, was that the patient had a definite erythema multiforme in the early stages, while the sepsis was mild. The sepsis evidently became more pronounced, but there was no recurrence of the erythema multiforme. Why? If he had the same sepsis throughout the condition, why did he not get an erythema multiforme later?

Dr. Henry J. Wallhauser, Newark: I feel that we are all agreed that a single etiologic factor cannot be considered as responsible for all cases of this varied eruption. A microbic origin is undoubtedly causative in some cases, while in others it is the expression of a toxemia. The following case in which protein shock seemed responsible was interesting from this point of view.

The patient was a woman, aged 50, presenting a mass the size of a pigeon egg in the right breast which had been present about ten years without apparent increase in size. Surgical removal was advised at various times, but the patient dreaded an operation and finally decided to try roentgen-ray treatment. I have no record of the technic or dosage employed, but she said that she had had six applications at weekly intervals. Following each treatment she was generally ill, with slight nausea and a feeling of malaise lasting several days.

About a month after the last treatment, an intensely red erythema developed in large patches, involving the face, neck and arms, gradually extending to the chest and other locations. In some areas, variously sized vesicles and bullae formed. Edema was a marked feature; face, arms and chest were greatly swollen; none of the locations involved cleared entirely, but varied in intensity; exacerbations occurred about every five or six days, followed by a corresponding period of quiescence, during which the redness became less pronounced and the edema subsided somewhat.

Examination of the tumor showed considerable decrease during the periods of quiescence, and at times it could hardly be felt, but with each exacerbation in the intensity of the eruption, considerable enlargement occurred, accompanied by a moderate degree of pain. On account of the constancy of this feature, we felt justified in ascribing the eruption as a skin reaction due to protein shock, resulting from the disintegration and absorption of the tumor tissue.

Physical examination and laboratory tests, including blood cultures, were negative, as were roentgenograms of the chest. The eruption continued for about two months, when the patient developed an uncontrollable diarrhea, gradually passed into a state of coma and died.

Dr. Henry H. Whitehouse, New York: Whether this condition is erythema multiforme or lupus erythematosus disseminatus, or what not, the correlation between skin diseases and general infection, whether septic or otherwise, is the important thing. We can all cite cases in confirmation of what Dr. McEwen said, but the necessity of group study of most inflammatory skin diseases is often overlooked, or neglected, in our specialty. Long before Osler brought up the question of internal crises in connection with the exudative erythemata of the skin, I think many of us were aware of the bodily reaction connected with skin manifestations.

Dr. C. Morton Smith, Boston: I wish to report a case of toxic erythema which in the beginning appeared as though it might end as erythema multiforme. A man, aged 24, complained of griplike feelings, pain in the joints and rise in

temperature, followed in a few days by a definite papular eruption over the forehead and other parts of the body, accompanied by a deep erythematous eruption which was particularly accentuated on the neck and wrist. It seemed as though two factors were present. The local physician became disturbed at the sequence of the eruption following temperature and backache and sent for a representative of the health department, fearing smallpox, as the young man had never been successfully vaccinated. It was found that he had a typical primary lesion at the meatus with a gland in the groin and a characteristic eruption of syphilis in addition to the erythematous eruption. The temperature at this time was 104 F., and continued for several days. He received his first injection of arsphenamin the day we saw him, which was four or five days after the onset of the acute symptoms. The temperature did not abate until after the second injection, four days later, when it gradually fell, until ten days after his first injection it became normal and remained so. Gradually the erythematous eruption disappeared, and we were able to find no explanation of his toxemia, except the *Spirochaeta pallida*. It was a perfect explanation for the papular eruption, but the acute erythema type seemed to belong to some other infection than that caused by the spirochete, but none could be found.

DR. V. PARDO CASTELLO, Havana: I think the main point in Dr. McEwen's paper concerns the question of septicemia lenta—whether these cases are the result of chronic septicemia or whether they are metastatic conditions. A septic condition is one in which the germs live and multiply in the blood stream as in anthrax and syphilis during the secondary period of this disease. In the cases under discussion I think that instead of a chronic septicemia, there is a focal infection which sets emboli of germs free to colonize in the joints, skin and other parts of the body.

DR. ERNEST L. McEWEN, Chicago: It is a source of great pleasure to me that this paper has stimulated so much discussion. I think there is no doubt as to the diagnosis of erythema multiforme. An acute lupus erythematosus was excluded by the later clinical course. There was no active tuberculosis, although the old pleurisy would naturally suggest a former tuberculous focus.

The definition of septicemia lenta as given is, I admit, very broad. I have made it so intentionally to convey my conception of a great etiologic factor in skin diseases.

As to the fundamental focus: The tonsils were removed and *Streptococcus viridans* was found; the gums were the seat of a peculiar and severe infection, but whether this was due to the same organism was never determined. No one seemed to be able to estimate the significance of the mouth condition, and no one was willing to sponsor a radical line of treatment of the teeth and gums. I have often felt that had this been otherwise the woman might have lived. The cause of her death was a generalized systemic invasion with *Streptococcus viridans*, the same organism that stood in causal relationship to her attack of erythema multiforme.

The question of protein shock is interesting and subtle; I believe that as dermatalogists we should study it more closely. I am prompted to ask in this connection in how many textbooks of dermatology of today do you find any discussion of the question, Why is a skin eruption?

The real point I wished to bring out in my paper is this: Dermatologists must recognize the relationship of skin disorders to internal conditions and without hesitancy must invade the domain of the internist in his search for causes. I prophesy that within the next ten years this will be done to a degree never imagined up to the present time.

HYPERGLYCEMIA

ITS THERAPEUTIC APPLICATION IN CERTAIN DERMATOSES *

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Two years ago I read a paper entitled "Hyperglycemia As an Etiological Factor in Certain Dermatoses." [1] Two years seem sufficient time to justify various conclusions which I shall now present. In my former paper, I showed elaborate and extensive tables of blood sugar findings. There has been no material change in our findings, as they were outlined previously.

REVIEW OF THE LITERATURE

There is a great volume of literature on the sugar content of the blood, but practically all of it is in relation to one disease, diabetes, and little effort has been made to show its relation to diseases of the skin. Diabetic dermatoses are recognized, but they were well known preceding the period of the general use of blood chemistry. A vast amount of work in blood chemistry has recently been done. Schamberg has probably contributed as much on the subject as any one else. Highman, Schwartz [2] and Pels [3] have all published valuable papers on their research in this field. It is a subject that is receiving a great deal of attention abroad, and the Pulay [4] paper is, within itself, an indication and evidence of the stimulating interest that is being shown along this line. Ayres has made investigations on the basis of which he contributed a paper on sugar tolerance in certain dermatoses. These various undertakings and accomplishments are more or less in their infancy at present. They may not always seem encouraging; they are pioneers in the field of etiology. Harrison and Whitfield's [5] contribution on cholesterol in xanthoma is interesting, and I had hoped that some physiochemical fact regarding the relationship of cholesterol and some other chemical or secretion in the body, might be found.

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* Read at the Forty-Eighth Annual Meeting of the American Dermatological Association, Washington, D. C., May, 1925.

1. McGlasson, I. L.: Hyperglycemia as an Etiological Factor in Certain Dermatoses, Arch. Dermat. & Syph. **8**:665 (June) 1920.

2. Schwartz, Highman and Mahnken: The Sugar Content of the Blood in Various Diseases of the Skin, J. Cutan. Dis. **34**:159, 1916.

3. Pels, I. R.: The Sugar Content of the Blood in Certain Diseases of the Skin, J. A. M. A. **65**:2077 (Dec. 11) 1915.

4. Pulay: Importance of Blood Chemistry in Dermatology, Arch. Dermat. & Syph. **8**:175 (Aug.) 1923.

5. Harrison and Whitfield: The Pathogenesis of Xanthoma, Brit. J. Dermat. & Syph., March, 1923, pp. 35-81.

The purpose of this report is to assemble the results we have obtained, or the observations we have made since our last report, in order that we may perhaps draw some helpful conclusions. Eliminating the intricate details of the tables and charts of the former paper, I shall set forth its practical application to the six classifications of the old paper.

A follow-up report on old cases follows. For simplicity I shall indicate cases formerly reported as "old" cases; those not referred to previously as "new" cases.

CLASSIFICATION

There seems to be some misunderstanding, or perhaps confusion, of the type of cases that we classed as flexural dermatitis. Some may have thought that these cases were a neurodermatitis. Only cases marked neurodermatitis (Case 83, Fig. 3) in former paper, conform to the accepted picture of neurodermatitis, which has been classically portrayed by Fred Wise.[6] In our cases of flexural dermatitis, the beginning is an acute inflammatory condition, with a vesicular formation, crusting, etc., as is seen in any acute dermatitis. As resolution takes place, and the scales and crusts clear off, there is left a subacute inflammatory base with a thickened skin and glazed surface, that might be taken for neurodermatitis at first glance. The acute stage is usually short, and the subacute stage will clear up rather rapidly, but, unless the etiologic factor is worked out, it will recur. In some of our cases, the history shows recurrences extending over a period of ten or fifteen years. The resolution in the area involved will be complete, and there will be no evidence of the former inflammatory condition. Here the term "flexural" may be criticized, as a number of patients had lesions in locations other than the flexures. However, we find the largest percentage of involvement in that area.

We have found no reason to change Group I, as the cases in that group are so often found in diabetes. Group II, which we classed as seborrhoids, could be criticized because of the close resemblance the symptoms bear to neurodermatitis. Our opinion remains the same in regard to this grouping, even though some of the cases are borderline in appearance to neurodermatitis.

Table 7, Group V includes eczematoid ringworm, and this classification we do not wish to change, as we have observed that, notwithstanding the fact that while the mycelium was recovered, in many cases there was an increase of blood sugar, and the patients were markedly benefited by a carbohydrate-free diet in addition to antiparasitic remedies. Hazen[7] has recently made the same observation.

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6. Wise, Fred: Arch. f. Dermat. u. Syph. **37**, 590.

7. Hazen, H.: Eczematoid Ringworm, J. A. M. A. **83**:1123-1126 (Oct. 11) 1924.

OLD CASES

There are four particularly interesting cases to discuss.

CASE 25.—Improvement was marked at first, and we thought the patient would continue to improve on carbohydrate-free diet; on the contrary, the course of the disease was erratic and at times stormy. The patient suffered many recurrences, and finally developed recurrent attacks of erysipelas. These attacks were accompanied by chills, high temperature and severe cellulitis. Although both legs were affected, all attacks of erysipelas occurred on the same leg. Blood tests were again made, with a blood sugar finding of 0.24 per cent. He was admitted to the hospital, and a sugar tolerance test was made with the following findings: first hour, 0.15 per cent.; second hour, 0.30 per cent.; third hour, 0.38 per cent.; fourth hour, 0.21 per cent. The continued high blood sugar and the intolerance exhibited after the injection of glucose with no improvement in the skin condition are both interesting points to note in this case. The urine was always negative for sugar. He was subjected to a regimen of the strictest care. With the blood sugar readings over a period of thirty days continuing high and dieting not giving satisfactory results, insulin was resorted to. He had an insulin shock, and the blood sugar dropped to 0.045 per cent. The patient was given orange juice, and the reading went up to 0.26 per cent. Starvation diet was then resorted to, and the resultant reading was 0.07 per cent.; but on the ordinary restricted diet, it immediately went back to 0.18 per cent., and the skin showed only slight improvement. This patient never at any time, except for the blood sugar reading, gave any justification for a diagnosis of diabetes. A climatic change to the Pacific coast was then decided on, with the result of complete relief being experienced, his blood sugar and skin condition returned to normal. That climate can improve cutaneous pathology is admitted, but why blood chemistry should have been improved thereby, I am unable to explain. Three other of our difficult cases, Cases 40, 88 and 147, continued troublesome, but a change of climate has either affected complete relief, or recurrences were much less frequent.

GENITAL PRURITUS

Our cases of genital pruritus have established some interesting facts. Ninety per cent., or even more of our cases have fallen under two heads, and Case 20 of our former report, may singularly fall under both heads. The condition has been either epidermophytosis or hyperglycemia, which, of course, includes true diabetes. The patient above referred to has remained well for three years after having suffered a prolonged illness over a period of eight years. We have had no patient treated that has not been benefited by attention to diet and to local applications, according to blood sugar findings or pathologic study. The other patients have all been improved or cured by the roentgen ray and attention to any local pathology.

URTICARIA

The patients with urticaria and high blood sugar, whose cases were reported in the former paper, have remained well. While it is not often true, occasionally we find urticaria that seems to be due entirely to a high blood sugar content.

INFANTILE ECZEMA

In a series of 100 cases of infantile eczema, in only one did we find a history of anything approaching a balanced diet. In the remaining ninety-nine cases, the diet was shown to be from two-thirds to almost totally carbohydrates. In the babies that were breast fed, we found the mother's diet excessive in carbohydrates, and numerous blood sugar readings for the mothers almost invariably showed high estimates. This increase in blood sugar on the part of the mother was from one to seven points above normal. These readings were not made on the infants, on account of obvious difficulties. It is important to note that all of the babies who were artificially fed, particularly those under the care of pediatricians, except one, had an excessive carbohydrate diet. Pediatricians insist that the baby must gain according to a fixed scale, and it is sometimes exceedingly difficult to obtain their cooperation. It is the observation of all dermatologists that infantile eczema most frequently occurs in the fat baby. Yet, notwithstanding this well-known observation, the pediatrician insists on the baby being overweight, the weight being built up on an excessive carbohydrate diet.

Our patients have received the usual local treatment. The greatest factor in the control of the eczema we believe was the reduction of the carbohydrates in the diet. In the total of 100 cases, we had but one failure to report. All the other patients were improved greatly or cured completely, and, interesting to note, some of the patients with the very worst cases would show a perfectly clear skin within ten days or two weeks after the beginning of the treatment. Careless feeding would insure a recurrence.

MISCELLANEOUS CASES

Ayres attempted to make a sharp distinction between eczema and other forms of dermatitis. But his own definition fits most of our cases classed as flexural dermatitis. So we are justified in accepting the tolerance tests found by him as being applicable to one or more of our groups and particularly to Group III, which includes flexural dermatitis. He found fifteen times as many abnormal reactions in cases of eczema as was found in the controls. So under the foregoing heading can be placed many cases in which hyperglycemia is an important factor in planning a therapeutic attack. I have found that in the study of patients who do not respond to ordinary therapy, aid may be had by blood chemistry, particularly sugar estimations.

In the miscellaneous group, I have placed several entities in which hyperglycemia was apparently an accidental factor. Even those were benefited by correction of this abnormality. They may have been potentially diabetic. If so, it is not to the discredit of dermatology that dermatology discovers it. In fact, the three cases that caused me to

undertake this work five years ago were cases of diabetes, and the condition was first found by the blood chemistry done in elucidating their skin pathology.

SUMMARY

There are selected dermatoses of a toxic character, particularly those outlined in Group III, in which hyperglycemia is an important factor, both etiologically and therapeutically.

There are other dermatoses, as outlined in Groups 2, 4, 5 and 6, in which, in the absence of satisfactory treatment, blood sugar estimation may be done advantageously.

In infantile eczema, notwithstanding the difficulties of blood sugar estimations, carbohydrate restriction in diet is the most important factor.

Cases in Group I are obviously recognized as diabetic dermatoses, and the underlying pathologic condition must be treated accordingly.

Blood sugar estimation is not offered as a panacea for all our dermatologic difficulties; but we believe it is a procedure worth consideration in the study of the various diseases of the skin discussed in this paper.

DISCUSSION

Dr. J. Frank Schamberg, Philadelphia: During the last three years we have made 500 sugar determinations in the blood in cases of dermatoses and allied conditions. The maximum normal of sugar content in the blood I do not think is accurately fixed. Many authorities think that 120 mg. per hundred cubic centimeters of blood is not abnormal. Dr. McGlasson rather feels that anything above 110 mg. is pathologic. We were astonished by the rare deviation from the normal in the cases studied by us, the sugar content being from 66 mg. to 110 mg. in the average cases, an average of 100 mg. per hundred cubic centimeters of blood. Excluding the cases of diabetes, the blood sugar was rarely high. In diabetes it runs up to 185, 200 or 300 mg. per hundred cubic centimeters of blood. In some cases of eczema the blood sugar was 145 mg. per hundred cubic centimeters. In adults we may have a high sugar content in cases of chronic nephritis because the kidneys fail to eliminate the sugar properly.

Much depends in these determinations on what constitutes hyperglycemia, whether the condition of patients with this content is to be considered pathologic. I did not consider it so and did not apply any therapeutic tests, as Dr. McGlasson has done. It should be remembered that the cutting down of carbohydrates may have an effect entirely apart from the glycemia. One may conceivably influence the clinical condition of the patient by cutting down the carbohydrates to a very low degree.

The whole subject is one which is most worthy of study and of discussion, but my general impression was that in the study of a considerable number of cases, excluding infants, because we did not study any infants, we did not find any marked deviation from the normal in 500 cases of dermatoses.

Dr. Douglass W. Montgomery, San Francisco: Of course much trouble is due to eating, and overeating usually means overindulgence in that attractive starch called sugar and that attractive fat called milk fat. If you can get your patient to cut down on this starch and fat you will do much toward facilitating the disappearance of many disorders of the skin. If a patient is limited to one

kind of meat at a meal, instead of eating five or six, as you often find him doing, he will rarely overeat on meat, and if you can cut down the other carbohydrate intake by limiting him to the chewable carbohydrates—and one certainly should chew one's carbohydrate and not take it in fluid form, such as soft puddings and sugary drinks—it will increase the chances for good results. Overindulgence in fruit is also a source of much trouble. Fruit is soluble starch, and if one can cut down on that one cuts down on the sugar, and this, as before mentioned, frequently aids in the disappearance of a skin disease. Long ago Dr. White, of Boston, drew attention to the increase of eczema during the berry season.

What Dr. Schamberg said is important, and the things I have mentioned I think are of great importance in the management of the patient. I therefore agree with Dr. McGlasson that many of the skin diseases are due to hyperglycemia consequent on taking too much soluble starch.

Finally, I would say that I consider that the easily fermentable, easily absorbable sugars and milk fats are often responsible for "jamming the works" and for "flooding the carburetor," so that the body processes cannot properly burn the food, and also that being easily fermentable, they often entertain noxious ferments in the intestinal canal, which by their toxins give rise to many of the cutaneous reactions.

Dr. Charles J. White, Boston: I do not know whether it is true that a baby with hyperglycemia shows a sugar indigestion in the stool. If that is true, then Dr. McGlasson's findings do not correspond with ours, for examination shows fat indigestion in the stool in most instances.

Dr. I. L. McGlasson, San Antonio: In regard to Dr. Schamberg's point about the kidney function, tests were made. The kidney function test in case 25 was 0.75 the first hour and 0.15 the second. In regard to the kidney threshold, this is extremely variable. With the blood sugar reading as low as 0.12, glycosuria has been found, while Dr. Wilder of the Mayo Clinic showed me a case history with a blood sugar reading of 0.3, and the patient never had any sugar in the urine while under his observation.

I have never made any stool examinations in these cases, and therefore cannot answer Dr. White's questions. The whole work in blood chemistry does not indicate that blood sugar estimations are the answer to all our problems, but in the types of cases discussed in this and my former paper we believe it is a line of investigation comparable to any other effort that can be made to find the etiology, not only directly, but as related to other causative factors.

ENDOTHERMY (ELECTRODESICCATION) IN DERMATOLOGY *

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AND

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In the early days of radium therapy, a colleague who attended a demonstration showing the curative properties of radium in small epitheliomas remarked that he could accomplish the same results with his sharpened finger-nail and a drop of acid. His statement remained unchallenged. Nevertheless, some of those who heard what he said no doubt made some mental reservations as to the wisdom of his contention. An epithelioma of the skin can be cured by a dozen different methods, all of them good ones; a patch of lupus might be destroyed in a variety of ways, ranging from the application of an acid or an ointment to the scalpel of the surgeon. The dermatologist is fortunate in having at his disposal several modes of attack in many different lesions of the skin and mucosae, enabling him to make a judicious choice of treatment for a given lesion. In making this choice he takes into consideration a number of elements, such as safety, time, pain, complications, rapidity of cure, proneness to recurrence, cosmetic result, etc.

Electrodesiccation, or, to use Wyeth's term, endothermy—heat from within—should be evaluated as an additional therapeutic weapon in the hands of the dermatologist. It has a limited field of usefulness; it does not supplant other erasive and destructive methods; it is no nearer to being a cure-all than are the roentgen rays, radium, the knife and cautery. It does, however, afford a means of erasive therapy of undoubted value to the practicing dermatologist, more especially if it is regarded in the light of an adjuvant to other modes of treatment.

The technical features have been fully dealt with in numerous publications by William L. Clark and his associates,[1] by George E. Pfahler,[2] George A. Wyeth [3] and others. A comprehensive descriptive paper has

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* Read at the Forty-Eighth Annual Meeting of the American Dermatological Association, Washington, D. C., May, 1925.

1. Clark, William L.; Morgan, J. Douglas, and Asnis, Eugene J.: Electrothermic Methods in the Treatment of Neoplasms and Other Lesions, with Clinical and Histological Observations, Radiol. **2**:233 (April) 1924.

2. Pfahler, George E.: The Treatment of Skin Cancer by X-Rays, Radium and Electro-Coagulation, New York M. J. & M. Rec., Nov. 15, 1922.

3. Wyeth, George A.: Destruction and Removal, Versus Removal and Destruction in Accessible Neoplastic Diseases, New York State J. M., October, 1924.

recently appeared in *The Journal of the American Medical Association,* by Grant E. Ward,[4] in which the electrical and physical aspects are carefully and clearly explained.

Most of these articles are of interest to the surgeon rather than to the dermatologist, although the treatment of neoplastic diseases lies within the domain of both. Clark, Pfahler and Wyeth, in connection with their surgical work, have spoken of good results with endothermy in localized lesions of the skin and mucosae, and during the past two years Wyeth has treated many patients who remained under our personal observation, referred to him from the dermatologic service of the Vanderbilt Clinic.

Our personal experience is based on a year's work in private practice, and therefore deals in the main with various diseases of the skin.

The term endothermy is employed to designate monopolar desiccation with the Oudin current and bipolar coagulation with the d'Arsonval current. Both effects are based on the production of heat generated within the tissues to which these high-frequency currents are applied. Electrodesiccation produces a dehydration of the tissue, with shrinking of the cellular elements, while electrocoagulation results in an actual coagulation which causes the tissues to become transformed into a homogeneous mass. The gross and microscopic changes produced by these currents in different kinds of tissue have been studied and described by Clark and his associates, and by Ward.

The monopolar desiccation current is used for benign and malignant new growths of small or moderate size and for many localized lesions of the skin and mucosae. An ordinary steel needle is used to conduct the current to the lesion. The desiccation current is of high voltage and low amperage and can easily be controlled by the operator. The technic is simple enough, but good results can be obtained only after considerable practice and experience with different kinds of lesions.

All of our work thus far has been done under local anesthesia. At first we made the mistake of using too intense a current for a given lesion, but we soon learned to employ just enough heat to bring about a desiccation or dehydration of the diseased area. After desiccation, the resultant shriveled mass is lightly scraped off with a curet, leaving a smooth, whitish-red surface, which is usually brushed with a light, fine spark, to guard against incomplete destruction of all affected tissues. In some lesions the desiccated mass is allowed to separate as a scab. Healing takes place usually without complications, in from two to four weeks.

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4. Ward, Grant E.: Value of Electrothermic Methods in the Treatment of Malignancy, J. A. M. A. **84**:660 (Feb. 28) 1925.

Electrocoagulation is produced by the bipolar d'Arsonval current, using a multiple spark-gap. The current is of relatively low voltage and high amperage, and is employed chiefly in the removal of relatively large growths of the skin and mucosae. We have had no personal experience with the coagulation current in our office work, but have had ample opportunity to observe results at the Vanderbilt Clinic.

The cosmetic results following desiccation bear favorable comparison with those obtained by other forms of therapy. Compared with the end-results following the use of the roentgen ray and radium, the scar tissue is in many instances softer and smoother, and often more nearly approximates the appearance of the normal skin in its vicinity. The incidence of severe atrophy, telangiectasia and keratosis following over-treatment with radio-active agents is eliminated, and the possible complications occurring in situ, months or years after treatment, need not be feared. As Clark has pointed out, the desiccation current being of low amperage, the degree of heat produced in the tissues is only moderate, but enough to bring about a complete dehydration of the cells, demonstrable microscopically by their mummified appearance. Desiccation produces little degenerative change and a minimum of disintegrated tissue, thus accounting for a relatively limited formation of fibrous tissue, which, with a low grade of secondary inflammation, results in a satisfactory scar.

With the thermocautery and galvanocautery, the heat, applied from without, can penetrate tissue only to a limited depth, for the resulting carbonization prevents the heat from exerting a deeper effect. In endothermy, the heat, instead of being transmitted by contact, is generated within the tissues by their resistance to the high-frequency currents. The disadvantages of the cautery are: Its action is relatively superficial; it gives rise to an undesirable secondary inflammatory reaction; it is unpleasant for use in office practice with local anesthesia; the results following its use are prone to provoke a disfiguring fibrosis, terminating in contracted cicatricial tissue.

Since desiccation produces a sealing of the blood vessels and lymphatic channels in the path of the current, its value in the treatment of malignant growths becomes apparent in that the danger of disseminating malignant cells from the primary focus is greatly lessened, and in many instances probably prevented. In treating squamous cell epithelioma, melanoma and sarcoma, a zone of circumvallation is first made with the desiccating needle, walling off the blood and lymph channels about the lesion as well as beneath it, thus practically isolating the growth from its surrounding structures. The neoplasm itself is then dehydrated and shriveled, after which the granular mass is curetted. The surface is then lightly desiccated to assure destruction of possible outlying malignant

cells. The current acting as a styptic, bleeding is practically eliminated; after-pain is absent, due to cutting off of the sensory nerve supply.

In small and moderately large lesions, healing takes place within from two to four weeks. The scar is usually smooth and pliable, and the cosmetic result may be compared favorably with that obtained by other procedures. The danger of development of telangiectases, keratoses and atrophy associated with excessive dosage of the roentgen rays and radium is eliminated, and the lesion is destroyed in a single sitting. In cases complicated by metastases, supplementary measures must of course be carried out, as in those treated by surgical and radiologic methods alone.

In basal cell epithelioma this method has produced uniformly good results. The advantages over the roentgen rays and radium are the saving in time, as it rarely is necessary to desiccate more than once, while the formation of fibrotic tissue following successive radiations in obstinate growths need not be feared. In this group of lesions are included the keratoses and epitheliomas associated with chronic radiodermatitis, in which satisfactory results may be obtained in less time and with less trouble to both patient and operator than we have been able to accomplish by any other means. As the desiccated surface is sterile, it lends itself readily to skin grafting where it is indicated. Desiccation is especially adaptable to new growths involving the canthus and lids of the eye, owing to the relatively small amount of contractile scarring.

Seborrheic, arsenical and senile keratoses, moles, warts, papillomas and condylomas, pyogenic granulomas and similar circumscribed lesions offer a favorable field for desiccation, mainly because of the convenience and dispatch with which complete destruction of such lesions may be brought about. In treating warts located directly over the joints of the fingers and the knuckles, we prefer roentgen-ray or radium treatment, as the denuded areas following desiccation are more prone to become secondarily infected and painful in these localities.

In vascular lesions desiccation has proved useful. The dilated venules of rosacea may be readily destroyed by throttling down the current to a fine, almost imperceptible spark, and inserting the point of a fine needle into the lumen of the vessel at its widest proximal portion; the procedure is like that of electrolysis, except that with desiccation only a second of time is required to obliterate the vessel. This little operation may be performed repeatedly without the use of an anesthetic. The current may be reduced to such a fine point that some have used it for the removal of superfluous hair without more discomfort to the patient than is occasioned by the galvanic current. It is claimed by those who have used the method that the papilla is destroyed in half

the time required for electrolysis. Small vascular nevi, so-called "ruby spots" and telangiectasiae following excessive radiation may be easily and promptly removed. We have not tried the treatment in port-wine nevus. In small angiomas, say up to the size of a hazelnut, desiccation affords a cure in one treatment, with a cosmetic result at least equal to that following the use of radium; in the larger angiomas radium is the method of choice.

Lupus vulgaris, tuberculosis verrucosa, scrofuloderma and some of the disseminate varieties of tuberculosis have been treated successfully. Our work in this field has necessarily been limited to a small number of patients, but from these few we are led to believe that in selected cases desiccation will ultimately prove to be the method of choice, for both skin and mucosae. Small and relatively recent patches of lupus respond readily, but the larger and older patches require repeated desiccation. The fissures and plaques of lingual and buccal tuberculosis may be readily cured with one application of the current. The relatively rapid cure of a patch of lupus with endothermy, as against the slow and expensive ultraviolet light, radium and roentgen-ray treatments, is a comparison which need not be stressed.

In the treatment of lupus erythematosus our results on the whole have been disappointing. As with other lines of attack, recurrences have taken place in the midst of what appeared to be cured areas, and in one of our patients, a woman, keloids appeared on the face, necessitating subsequent radium applications. Keloid formation was in all probability due to the use of a current of too great intensity, that is, too much heat. The reappearance of lupus erythematosus in areas which had been thoroughly desiccated and apparently completely eradicated, has forced us to the conclusion that either our technic is at fault, or, what is more likely, endothermy without the aid of supplementary treatment is inadequate. Nevertheless, some of our patients have as yet shown no signs of recurrence after a lapse of from three to six months.

Leukoplakia of the tongue and buccal mucosa has responded with better results than can be obtained by any other form of treatment. Small plaques may be promptly cured in one application of the current. Extensive areas on the dorsum of the tongue may be desiccated in one sitting, the resultant dehydrated mass being peeled off in a uniform membranous sheet, leaving a surface which undergoes rather prompt healing. We have not as yet treated a sufficient number of patients to enable us to speak of the liability to recurrence; but as compared to other forms of therapy, such as the cautery and radium, there can be no question as to the superiority of desiccation in this intractable condition.

An enumeration of other diseases to which endothermy is applicable need not be detailed in this report. Brief mention should be made of

xanthelasma of the eyelids which responds well to treatment. The multiple lesions of molluscum contagiosum are promptly eradicated. Pigmented nevi may be removed with cosmetic results equaling those obtained with refrigeration. Verrucous linear nevus, which in our hands has always proved recalcitrant, responds well to desiccation.

Among other conditions in which the method might prove advantageous, may be mentioned localized blastomycosis and actinomycosis, fungating bromoderma, circumscribed vegetating eruptions, xeroderma pigmentosum, chronic leg ulcers, superficial types of sarcoid, isolated lepromas, etc. It is also interesting to speculate as to its value in the treatment of some of the chronic lesions peculiar to tropical countries, such as Aleppo boil and Peruvian warts. For diseases and new growths covered by healthy skin, endothermy usually is not adaptable.

SUMMARY AND CONCLUSIONS

In certain fixed and localized lesions of the skin and mucosae endothermy affords a rapid and efficient method of destructive therapy, being relatively free from pain, hemorrhage and shock, and thus especially adapted to office practice.

With proper technic, the cosmetic results compare favorably with those following other forms of treatment.

In squamous-cell epithelioma and in sarcoma, the walling off of surrounding blood vessels and lymphatic channels tends to safeguard against metastases.

Combined with other therapeutic measures, endothermy should be regarded as a valuable addition to the armamentarium of the dermatologist.

DISCUSSION

Dr. John A. Fordyce, New York: I am glad to corroborate everything Dr. Wise has said regarding the efficiency of endothermy in these various skin lesions. I have employed it in my office for the last year or year and a half, with satisfactory results. We usually employ a local anesthetic, and in this way it can be used painlessly. It is efficacious in the treatment of soft moles. The moles slip off and leave an almost imperceptible scar. In cases of leukoplakia we find that within six months the lesions disappear almost entirely, but occasional recurrences take place. Lupus erythematosus recurs frequently, and during the recurrences the patients should be treated. By doing this we can often control the condition. I have used the galvanocautery in connection with the endothermy and in that way have succeeded in clearing up a number of cases of lupus erythematosus of the fixed types. In the other conditions Dr. Wise has described, I think endothermy has a definite value.

Dr. Harold N. Cole, Cleveland: We are certainly very fortunate in having this agent added to our other measures to combat these conditions. It has its place, just as the roentgen ray and radium have their place. In some cases of malignancy, especially of the tongue, I think we obtain better results with radium emanations. We are treating almost all of our patients with the implanta-

tion of radium seeds and obtain much better results than by any other means. Malignancy of the nose when the cartilage is involved may be treated by endothermy of the diseased part. Lesions of the inner canthus in which there is not much involvement can be treated with endothermy, with slight scar formation. Leukoplakia reacts well and, as a rule, does not recur.

In some cases in which endothermy was used the skin graft was made too soon, for if a few cancer cells have been left there is further rapid recurrence of the growth. I think the advice of Pfahler not to be in too big a hurry to do the skin grafting, is good. We should wait until we are sure that there is no malignancy left.

Dr. Udo J. Wile, Ann Arbor: I should like to ask Dr. Wise whether the cases he speaks of as melanoma were actually melanotic cancer, or cases which are potentially malignant. I ask this because in my experience after a tumor containing pigment shows evidence of malignancy there is already metastasis, and local treatment is of no advantage in eradicating the disease itself. I wonder whether in the cases he speaks of as melanoma he was dealing with actually malignant lesions.

Dr. Thomas C. Gilchrist, Baltimore: I should like to ask what Dr. Wise's experience has been with tumors involving the cartilage and also in the bone.

In reference to Dr. Wile's remark, a famous surgeon had a growing melanoma on the cheek twenty-two years ago, which Dr. Halstead removed, and there has been no evidence of recurrence.

I have had great success in treating lupus erythematosus as I would a basal cell carcinoma, giving a sufficient dose of roentgen ray. I obtain a good reaction, and the resulting scar is almost unnoticeable. It is a very soft scar, looking like normal skin.

I should also like to ask whether Dr. Wise uses a general or a local anesthetic.

Dr. Douglass W. Montgomery, San Francisco: The success of radium treatment of epitheliomas of the skin is one of the great successes of radiant energy. The technical trick consists in long continued application with heavy screening. With no other means than with radium can such a prolonged powerful irradiation be given.

Dr. J. Frank Schamberg, Philadelphia: I did not have the privilege of hearing Dr. Wise's paper, but I assume that some reference was made to desiccation as a means of destroying the tissue consequent on roentgen dermatitis. Dr. Pfahler, some years ago, showed a striking result in a case of roentgen dermatitis, or roentgen-ray burn, in which he had destroyed all the necrotic tissue, with subsequent skin graft, with remarkable success. I have since used this in several cases, without the skin graft, with remarkable success. In one extensive case of cancer of the ear I removed the entire ear with the desiccation, with entire cure. It was done under general anesthesia.

Dr. C. Guy Lane, Boston: Dr. Greenwood and I have been using a desiccation apparatus for several months in these conditions, and find that in most instances it clears them up nicely. I feel, however, that we are likely to use too heavy a current. Three keloids have developed on the site of previous lesions, which it has been necessary to treat with radium later. One patient who had lupus erythematosus was treated, and the condition has since recurred. Two patients have been under treatment for hypertrichosis, and I think here the tendency has been to use too heavy a current. I am afraid the scarring in

at least one of these cases will be more marked than that from the galvanic current. The time is considerably shortened, however.

At the meeting of the American Roentgen Ray Association at Swampscott two years ago, Dr. Pfahler spoke at length of this method in treating keratoses due to the roentgen ray and radium, and his success was marked.

Dr. Fred Wise, New York: When I spoke of melanoma I had in mind a melanotic nevus. At times we do see a melanocarcinoma which has not yet metastasized, and the one I showed in the picture was one of them.

Regarding Dr. Gilchirst's question, most of the patients we had under our personal care to whom general anesthesia was given were those in Dr. Wyeth's service at the Vanderbilt Clinic. In our office the work is limited to the treatment of lesions under local 2 per cent. procain anesthesia.

As to the cartilage lesions, a number of them require the electrocoagulation method, usually under a general anesthetic. The results are very good, especially in comparison with those obtained by roentgen ray and radium, in which it is a well-known fact that they do not exert a desirable effect on either bone or cartilage lesions. Endothermy is of great value in the lesions of the bone and periosteum in which the roentgen ray and radium do not act favorably.

XLV.—LARGE SPORED RINGWORM INFECTION

TREATMENT WITH FOREIGN PROTEIN INJECTIONS (BEARD AND SCALP) *

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ST. LOUIS

In 1917, Engman and McGarry [1] reported three cases of trichophytosis barbae in which the patients were treated with Strickler's ringworm vaccine. We were struck at that time, although the injections were made subcutaneously, with the systemic reaction and fever produced by the vaccine. Previously Engman and McGarry [2] published results on the treatment of various skin diseases by intravenous injection of foreign proteins. In the latter publication, we called attention to the high temperature and extreme general reaction shown in every case by the foreign protein used in those investigations, namely, suspensions of typhoid bacilli. Reasoning from the similar reaction produced by the typhoid suspensions and the ringworm vaccine, we concluded that probably the results obtained in tricophytosis barbae were due to a foreign protein reaction and were not the result of a specific effect of the ringworm vaccine. Therefore, at the first opportunity, cases of large spored ringworm infection were used for further investigation, the results of which are noted in the report of the following cases.

REPORT OF CASES

CASE 1.—L. T., a colored man, aged 38, entered the Barnard Free Skin and Cancer Hospital, March 26, 1918, with large spored ringworm of the beard, ectothrix variety. On the right side of the neck was a thickened area of about 3 cm. in diameter, almost nodular. On the left side was a similar area about 3 cm. in diameter. Both lesions were studded with follicular pustules with an advancing pustular margin. Local treatment for a few days was ineffective. After this no local treatment was used. On April 4, he was given intravenously 100 million of a suspension of typhoid bacilli, which produced a severe reaction with a temperature of 104.2 F. This reaction subsided in a few hours. On April 11, he received a similar injection of 200 million typhoid bacilli in suspension, which caused a quick reaction, severe chill and a temperature of 102.5 F.

A few days after the latter injection, the skin lesions were near the level of the skin and were undergoing rapid involution. On April 16, the patient was given 300 million of typhoid bacilli suspension, which produced a temperature

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* Studies, observations and reports from the Dermatological Departments of the Barnard Free Skin and Cancer Hospital and the School of Medicine, Washington University, St. Louis, Mo., U. S. A., service of Drs. M. F. Engman and W. H. Mook.

1. Engman and McGarry: Ringworm Vaccine, J. A. M. A. **68**:543 (Feb. 17) 1917.

2. Engman and McGarry: Skin Diseases, J. A. M. A. **67**:1741 (Dec. 9) 1916.

of 104, which lasted only two hours. The lesions at this time were entirely well, except one small patch the size of a pea, which looked like a reinfection. However, on May 20, about a month after the last injection, the patient was entirely well, with perfectly normal skin (Figs. 1 and 2).

CASE 2.—M. K., a white man, aged 42, in June, 1916, had been admitted to the hospital for treatment of sycosis vulgaris, which was cured by roentgenotherapy. On March 12, 1920, he again presented himself for treatment with large spored ringworm of the beard demonstrated microscopically. The disease

Fig. 1 (Case 1).—Before treatment with intravenous injections of foreign protein.

had begun four weeks before his visit. On the left side of the neck, just below the anterior half of the lower jaw, was an indurated area about 3 cm. in diameter, dotted with pustules. Petrolatum was applied locally and 50 million typhoid bacilli in suspension intravenously; this treatment was followed by a temperature of 103.8 F. On March 17, he was given 75 million of the same suspension intravenously with a temperature of 100 F. On March 19, 150 million typhoid bacilli in suspension produced a more severe reaction with a temperature of 102 F.

On March 22, he received an intravenous injection of 300 million, with a marked reaction and 103 F. temperature. At this time the lesions were much improved, the inflammation was much reduced, and the hairs could easily be removed. The patient was allowed to go home.

On March 27, the patient returned. The old lesion was almost entirely healed, but in other areas of the beard several furuncle-like lesions had appeared in which no fungi were found microscopically. Nevertheless, he was given another injection of 300 million of the typhoid bacilli suspension, which was followed by a severe reaction and a temperature of 103.8 F.

Fig. 2 (Case 1).—After treatment with intravenous injections of foreign protein.

On April 12, the patient was entirely well; the skin of the beard was normal.

These two cases illustrate the type we have treated with uniform and rapid results. We believe, in the average case of this character, that from four to six injections of a foreign protein at four to five day intervals will be sufficient to effect a cure.

In the study of foreign protein used intravenously in the treatment of various skin diseases, in the majority of instances we have employed typhoid bacilli suspensions in gradually ascending doses of approximately 50 to 300 million,

using commercial products of the reliable pharmaceutical houses. We have employed the typhoid bacilli suspensions because they are well prepared and easily standardized for accurate dosage.

It was with a great deal of interest that we undertook the treatment of three children with ringworm of the scalp, as we thought it would require a more delicate technic and would be a more severe test of this treatment. These cases occurred in three children of one family.

Case 3.—When a white girl, aged 6, was first seen, the scalp contained so much pus that it was necessary to incise eleven points to evacuate all pockets. During the time when the secondary infection was combated, the patient was quite ill, running a constantly high temperature from April 19 to April 24, 1920. After the foregoing condition was improved, intravenous treatment was begun.

Fig. 3 (Case 3).—Before treatment with intravenous injections of foreign protein.

On April 26, foreign protein treatment was begun. Almost the entire top of the head was involved in a boggy, inflammatory condition, which was draining following incision. The back and sides of the head were affected similarly with smaller areas. The scalp was treated with petrolatum.

On April 27, 25 million of a typhoid bacilli suspension given intravenously was followed by a severe reaction and temperature of 106 F.

On May 11, a 50 million dose was followed by a temperature of 103.2 F.

On May 19, a 75 million dose was followed by a marked reaction, with a temperature of 105.4 F.

On May 24, a 150 million dose was followed by a slight reaction, with a temperature of 100 F.

No further injections were given as discharge ceased, and the entire process was undergoing rapid involution. The patient was watched until dismissed cured, June 25 (Figs. 3 and 4).

Case 4.—A sister of the patient in Case 3, aged 5, on March 15, 1920, developed ringworm. She was the least affected of the three patients. The entire scalp was involved with typical plaques and pustules. Megalosporon ringworm was demonstrated microscopically.

On April 20, a dose of 7 million typhoid bacilli produced no reaction, the temperature being 99 F.

On April 22, a 30 million dose was followed by a slight reaction, with a temperature of 104 F.

On April 23, there was a marked change; hairs were easily pulled out, and swelling and puffiness of the affected area disappeared.

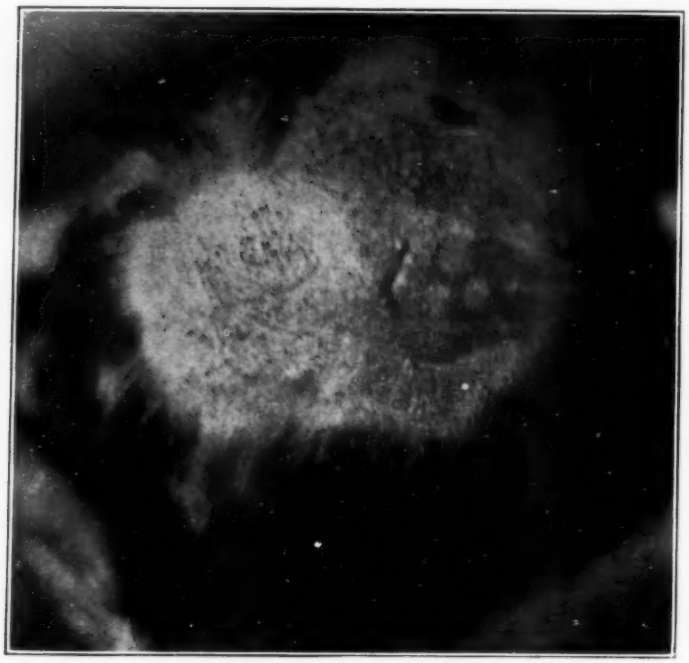

Fig. 4 (Case 3).—After treatment with intravenous injections of foreign protein.

On April 26, fungi were found in hairs microscopically. Little inflammation was found and no evidence of spreading. No further injections were given this patient.

On May 29, there were new hairs growing in the lesion, but no fungi were found.

On June 25, the patient was clinically well, only slight redness at points of former lesions being present.

Case 5.—A white boy, aged 5, a brother of the patients in Cases 3 and 4, had the disease which began March 15, 1920. When first seen, April 19, the child had numerous patches, from 1 to 6 cm. in diameter, scattered over the scalp.

The *Megalosporon ectothrix* fungus was demonstrated in all three cases.

On March 20, intravenous injection of 8 million typhoid bacilli produced a slight reaction, with a temperature of 101.4 F.

On March 22, an 18 million dose caused a slight reaction, with a temperature of 101 F.

On March 24, a 50 million dose produced a moderate systemic reaction, with a temperature of 104.5 F.

On March 27, a 100 million dose caused a marked reaction, with a temperature of 103 F.

This case seemed more resistant that the other two cases, and the injections were continued.

On May 1, a 150 million dose was followed by a slight reaction, with a temperature of 103.4 F.

On May 14, a 250 million dose caused a slight reaction, with a temperature of 101.8 F.

Intravenous injection was discontinued.

On May 29, the patient was discharged with lesions involuted, inflammation gone and new hairs at the sites of former lesions.

On June 25, the scalp was perfectly well except for red spots at former lesions.

COMMENT

We have observed several other similar cases in children, in whom the method of treatment has proved satisfactory.

In injections of foreign proteins, it seems necessary to obtain not only a marked rise of temperature but also a systemic effect, which is exhibited by a prolonged chill, some nausea, headache, sometimes pain in the back and a subjective feeling of illness and malaise. These symptoms subside in from two to six hours, after which the patient becomes drowsy and awakens with a feeling of well being and with a good appetite. It seems wise to watch the patient carefully, but in no instance have there been alarming or untoward symptoms. As was reported by Engman and McGarry, there is leukocytosis and some transient albuminuria. It is well to begin with small doses in children —about 10 to 20 million—as the number of bacilli in a given dose of the suspension seems to have a direct relation to the degree of the reaction.

Large spored ringworm of the beard in adults and of the scalp in children is always a stubborn infection and difficult to cure.

Ringworm of the beard in men is always extremely resistant and lasts a long time. This method of treatment, even though it may cause some discomfort to the patient in the form of a few hours of illness every few days, offers a cure relatively rapid and complete.

In conclusion, we feel that this method of treatment may be recommended for large spored infections in both children and adults, and that it offers a relatively rapid and easy cure. In our experience it has been a harmless and reliable method. We feel, however, that the treatment should not be used in delicate persons or in those with

organic disorders, especially, nephritic patients or those with cardiac conditions. Moreover, the further precaution should be taken in all instances of having the patient in the reactionary stage and until the fever has subsided, at rest in bed, either in a hospital or at home.

We have treated a few patients who had small spored ringworm infection by this method, with no curative results. Intramuscular injection of any foreign protein seems to have no effect on the large spored ringworm.

CONGENITAL ALOPECIA *

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AND
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Congenital alopecia is generally regarded as an uncommon cutaneous anomaly. It is probably more common than is generally believed. The literature contains the reports of many interesting and diversified cases reported under this title.

The loss of hair may be complete and absolute, although these cases are rare. More commonly it consists of an alopecia, with scanty, incompletely grown, or lanugo-like hair. The condition is commonly associated with other defects of development, chief among which are dental aplasias and changes in the nails. In a few instances it has been found in association with anomalies in the sweat glands, impaired senses of taste and smell, absence of the mammary glands and epidermolysis bullosa.

ETIOLOGY

The condition has been seen more in males than in females. The proportion of males affected is about twice that of females. A familial tendency is common. Cases are often seen in brothers and in brother and sister. In a few instances a family has been affected for generations.

Hypothyroidism and hyperthyroidism have been thought to be factors in the etiology of a few reported cases. There are, however, numerous instances in which there have been no familial or hereditary tendencies to explain the condition.

Kingsbury,[1] in citing the frequent coincidence of anomalies of the hair, teeth and nails, together with the hereditary character of many cases, believes that it points to deep-seated anomalies of certain tissues which have an intra-uterine origin. The fact that the epiblast alone is involved in these cases, points to some affection of this layer during the early months of intra-uterine life. Most observers regard this type of alopecia as a congenital deformity due to a more or less completely arrested development of the hair follicles. This arrest may occur either early or late in intra-uterine life. The earlier the occurrence of the arrest in the development of the follicle, the more rudimentary will the follicle prove to be, and the more unfavorable will be the prognosis for future hair growth.

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* Read at the Forty-Eighth Annual Meeting of the American Dermatological Association, Washington, D. C., May, 1925.

1. Kingsbury: J. Cutan. Dis. **24**:419, 1906.

Joseph,[2] Pincus [3] and Bettman emphasize the fact that it is not the shedding of hairs which occurs before or shortly after birth that is pathologic, but the failure to replace this loss of hair with a permanent growth constitutes the morbid condition.

PATHOLOGY

The pathology has been studied carefully by Ziegler,[4] Schede,[5] Jones and Atkins [6] and Buschka.[7] Ziegler in his case of absolute alopecia found the epithelium and sebaceous glands normally developed. There were numerous papillae present, but there was an absence of hairs. Near the sebaceous glands, generally at their base, were isolated, convoluted, epithelial tubules, with large, circular lumens which did not communicate with the surface. These were surrounded by connective tissue near which were unstriped muscular fibers. Similar fibers were present in the vicinity of the sweat glands which were normal in every respect. The epithelial tubules were thought to represent the remains of the external sheath of the root of the hair. Ziegler ascribes the failure of the hair to develop to local alterations in the external sheath of the root of the hair, below the level of the excretory duct of the sebaceous gland. He thinks excessive production of the cells of the sebaceous duct may cause occlusion of the lower portion of the sheath of the hair root, resulting in a constricting off of the lowermost portion of the sheath before the papilla has formed.

Jones and Atkins found irregular tubules, crossed by fine trabeculae, containing granular material. In places there were also aggregations of circular and ovoid apertures, deeply lined with small compressed epidermal cells. These apertures appeared to be transverse sections of tubular cylinders, and were thought to represent hair follicles altered in situation, position and structure.

VARIETIES

So many and such different types of cases have been reported under the name congenital alopecia that it is difficult to group and classify them.

Thurnam,[8] in 1848, reported two cases in cousins. Both men had scanty growths of lanugo-like hair, and no eyebrows or eyelashes, and neither perspired nor were known to have shed tears. Both had

2. Joseph, quoted by Jackson: Diseases of the Hair, Jackson & McMurtry, 1912.
3. Pincus: Arch. f. Dermat. u. Syph. **50**:347, 1899.
4. Ziegler: Arch. f. Dermat. u. Syph. **39**:213, 1897.
5. Schede: Arch. f. klin. Chir. **14**:158, 1872.
6. Jones and Atkins: Dublin J. M. Sc. **60**:200, 1875.
7. Buschka: Arch. f. Dermat. u. Syph. **108**:27, 1911.
8. Thurnam: London M. & S. Tr. **31**:71, 1848.

defective teeth; one had only four teeth in his upper jaw, none in his lower. At necropsy, a very much enlarged thyroid was found in one.

Hutchinson's [9] case was that of a boy, aged 3½, whose mother had had an extensive alopecia ever since the age of 6. His scalp was thin and bald. He had eyelashes but no eyebrows. There were changes in his fingers and fingernails. He also had no nipples; these were replaced by patches of scar tissue. His five sisters had wonderful heads of hair.

An interesting case is described by Ziegler. There was no hereditary history. Up to the age of 13 the patient was entirely bald. From that time on, every four weeks a small bunch of black hair made its appearance at the occipital protuberance, to disappear again with the cessation of menstruation. She also had a marked keratosis pilaris on her scalp.

Schede reported the cases of a boy, aged 13, and his sister aged 6 months. Their parents were healthy and had good heads of hair. Both children, however, were born absolutely bald, with no scalp hair, eyelashes or lanugo.

Abraham [10] reported three cases of congenital alopecia in a mother and two children. The mother had complete absence of hair on her eyebrows, eyelashes and scalp until she was 18. At that age her hair began to come in by degrees, until by the time she reached adult life she had a fair head of hair. Both children were bald.

In the case studied by Jones and Atkins,[10a] the boy was absolutely bald. His fingernails were aborted and badly formed, and his teeth were irregularly arranged, widely separated and marked by transverse ridges.

Balzer and Barthelmy's [11] case was that of a man, aged 42. He had a scant growth of hair on his scalp, only rudimentary eyebrows, and the nails were striated longitudinally. The authors felt in this case that the alopecia was due to thyroid insufficiency, and that the thyroid insufficiency was familial. The patient's mother, sister and one daughter were similarly affected.

Wende [12] reported a case in a child, aged 5, who was completely bald at birth and who remained so until he was 3 years old, when a few lanugo hairs made their appearance. The ends of the fingers of both hands and several toes were afflicted with a peculiar epidermolysis bullosa, associated with hyperhidrosis of both feet and hands.

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9. Hutchinson: Medico-Chirurgical Tr. **69,** 473.

10. Abraham: Brit. J. Dermat. **7**:162, 1895.

10a. Jones & Atkins: Dublin J. M. Sc. **60**:200,1875.

11. Balzer and Barthelmy: Bull. Soc. franç. de dermat. et syph. **25**:321; Bull. Soc. franç., June, 1919, p. 189.

12. Wende: J. Cutan. Dis. **22**:14, 1904.

Kingsbury's three patients were sisters, all of whom showed almost complete alopecia, with club-shaped fingers. The fingernails and toenails were all short, thickened and broken in places.

Hyde,[13] in 1908, reported an unusual case accompanied by webbing of the fingers and toes of both hands and feet.

Other interesting cases have been reported by de Molenes,[14] Steimnig,[15] Blaisdell and Cunningham,[16] Pincus, Schede, Buschka and Eshner.[17]

Another type of congenital alopecia, familial in character, in which not only several members of one family but the family for generations have been affected, is illustrated in the case of Nicolle and Halipre.[18] They reported thirty-six cases in six generations of one family, all of whom showed nail changes and most of them alopecia.

Illustrating this same type of familial alopecia is the case reported by White,[19] in a man aged 19, who showed marked alopecia and changes in his nails. Four generations of his family were affected.

Eisenstaedt's [20] three cases in one family occurred in a family in which five generations had been affected, and Jeanselme and Rime [21] had one case in a girl whose family for five generations had had alopecia.

Circumscribed congenital alopecias are the subject of an interesting article by Dubreuilh and Petges.[22] They describe minutely and classify a number of circumscribed congenital alopecias as:

1. Circumscribed nevic congenital alopecias, in which nevus lesions develop on plaques of alopecia, cases in which a nevus in process of involution leaves its relics on a similar plaque. As a result there are formed irregularly round or oval patches, slightly projecting, often mammillated, at times darkly pigmented, and covered with a fine growth of downy hairs.

2. Circumscribed congenital alopecias due to arrested development of the skin. The plaques are small and situated near the posterior fontanel, over the occiput or over the median line. No downy hair is present, nor are there any signs of atrophy or cicatrization.

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13. Hyde: J. Cutan. Dis. **27**:1, 1909.
14. De Molenes, Paul: Ann. de dermat. et syph., 1890, p. 1.
15. Steimnig, quoted by Eshner: Natizen aus dem Gebiete der Natur und Heilkunde **26**:50 (Nov.) 1829.
16. Blaisdell and Cunningham: Boston M. & S. J. **176**:210.
17. Eshner: J. Am. M. Sc. **129**:622.
18. Nicolle and Halipre: Ann. de dermat. et syph. **6**:804, 1895.
19. White: J. Cutan. Dis. **14**:220, 1896.
20. Eisenstaedt: J. A. M. A. **60**:27 (Jan.) 1913.
21. Jeanselme and Rime: Bull. Soc. franç. de dermat. et syph. **31**:79, 1924.
22. Dubreuilh and Petges: Ann. de dermat. et syph. **9**:257.

3. Obstetrical alopecias, wherein there are various sized patches situated in the frontal and frontoparietal regions and which are supposedly due to the action of the obstetrical forceps.

4. Sutural alopecias, due to the enlargement of the cranial vault prior to the union of the fontanels, the patches occurring in the region of the sutures, with adhesion to the deeper parts, causing irregular growths of hair, few in number and arranged irregularly.

5. Circumscribed loss of hair at birth, followed in later life by normal development of hair.

In our case and in a number of the reported cases of alopecia both acquired and congenital, keratosis pilaris as described by Brocq [23] was a prominent feature. In a paper read before the Second International Dermatological Congress, Brocq emphasized the importance of this keratotic process in the production of many cases of alopecia. "Is the keratosis the underlying factor in the production of some of these alopecias?" he asks. "Is it the cause of the failure of the hairs to develop, and is it only noticeable after the normal hair has been replaced by finer ones, or did some other process cause the hairs to fall out and did the keratosis occur later?"

Illustrating cases of alopecia associated with keratotic processes are the cases reported by McLeod,[24] Lesser,[25] and Chalmers Watson [26] under the name ichthyosis follicularis.

McLeod, in 1909, reported three cases in brothers. One was completely bald, the other two almost so. None of them had eyebrows or eyelashes, but none showed any changes in their sweat apparatus. The skin of the scalp in many places was the seat of numerous papules, pinhead sized, round and acuminate, which replaced the hairs. Occasionally the papules were pierced by hairs, but in most instances the hairs could be found curled up and twisted under the papules. McLeod believes this condition is similar to ichthyosis. Its most important etiologic factors are its tendency to occur in children of ichthyotic parents, and its association with ichthyosis.

Lesser's case was almost similar to ours. The patient was a boy, aged 6, born without hair. A week or so after birth it was noticed that he had a dry, harsh skin over his nose and ears. When he was 6 years old there were a few isolated hairs in the central portion of his scalp, with a scanty growth at the periphery. The hair follicles on the face, eyebrows, nose and auricular ridges were the seat of small,

23. Brocq: Transactions of the Second International Dermatologic Congress (Berne), 1892, p. 538; Ann. de dermat. et syph. **25**:82, 1890.

24. McLeod: Brit. J. Dermat. **21**:165, 1909.

25. Lesser, in Ziemmsen: Handbook of Skin Diseases, p. 236.

26. Watson: Brit. J. Dermat. **16**:1, 1904.

horny, epidermal spines. These Lesser considered to be a form of ichthyosis.

Chalmers Watson's case was that of a boy, aged 6, whose skin showed a marked keratosis pilaris. The cutaneous eruption consisted of numerous small, acuminate and flat papules, many of which were

Fig. 1 (Case 1).—Absence of eyebrows and front view of scalp.

pierced by hairs, and many of which presented characteristic spines. This eruption was well marked over the skin of the buttocks, the lateral aspects of the thighs and the sides of the neck. The scalp hair was scanty, dry and lusterless, and the alopecia appeared like a prematurely senile one.

We report two additional cases of alopecia, in brothers, presumably congenital, which showed no atavistic traits and no endocrine disturbance, and which improved under observation without treatment.

REPORT OF TWO CASES

CASE 1.—*History.*—John Z., aged 10, was first seen in January, 1922. At that time he was brought to the hospital by a school nurse who had noticed his peculiar lack of hair. He was a rather stocky, well nourished Polish boy, who

Fig. 2 (Case 1).—Peculiar arrangement of hair on top of scalp, and marked keratosis pilaris.

was born and brought up in one of the small towns on the outskirts of Chicago, in a district in which goiter is prevalent. He had always been well and had never had any childhood diseases except whooping cough. His mother died of sepsis, after childbirth. She is said to have had a good head of hair. His father was living and well, but had a prematurely senile type of alopecia. Two sisters had fine heads of hair. One older brother, Joe, aged 16, had an alopecia similar to John's, except that it was not as marked. According to the father,

Joe, the older brother, was born without hair, and when he was John's age had even less hair than John. There was no history of any one in the family ever having had any similar alopecia, trouble with the nails or other developmental anomalies. The father stated definitely that both boys were bald at birth. Whether they were absolutely bald, or whether there was any keratosis pilaris or lanugo hair present, could not be definitely ascertained.

Examination.—The patient was rather short for his age. He was 4 feet, 1 inch in height, and weighed 61 pounds (27.7 kg.). His muscles were relatively well developed, and his body well proportioned.

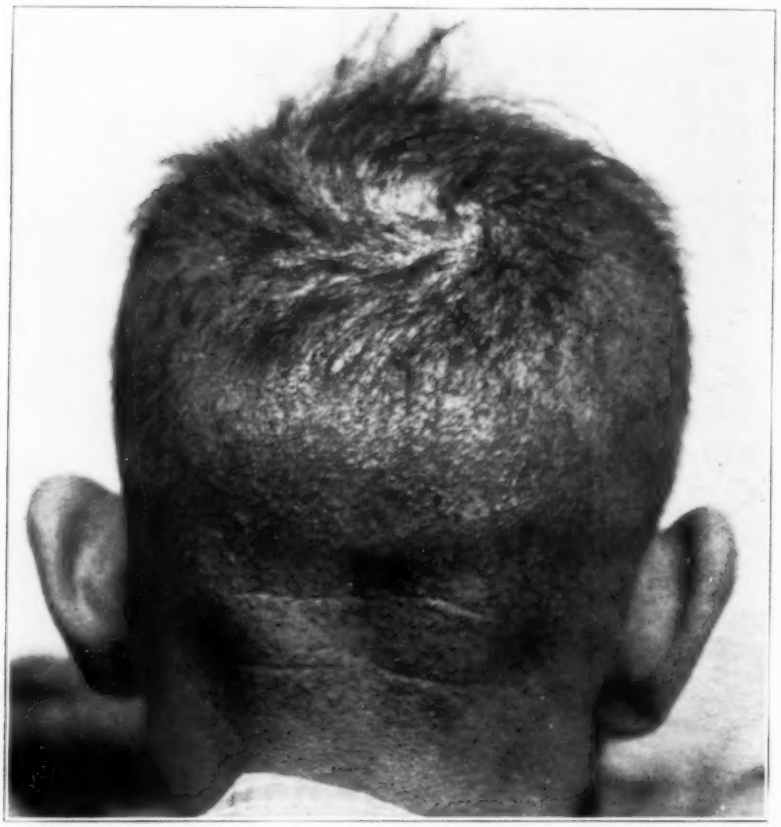

Fig. 3 (Case 1).—Posterior view of scalp showing alopecia with keratosis pilaris.

The head was large and square, measuring 52.5 cm. in the occipitofrontal circumference. The scalp was dry and felt rough. The hair growth was scantiest on top of the head and in the occipital region. It was more plentiful on the sides, and occasionally required cutting. Some of the hairs on top of the head were coarse, large, dry and stiff. The longest stood straight up, though some curved in an arciform manner. Others were short and stiff, and curled up close to the scalp. Those on top were black, while the softer, downier hair on the sides of the head was sandy. The caliber of all of the hairs was

uniform throughout. None were beaded or fractured. Where the hair growth was scantiest, an eruption of small, pinhead sized, conical and acuminate papules were noted, many of which surrounded the hair stumps, and under many of which were small, curled up hairs. This, we believe, is a keratosis pilaris as described by Brocq. This eruption is seen typically over the posterior part of the scalp extending down onto the neck. Many small, stiff hairs were seen there, surrounded by small pinhead-sized papules, some curled up under the papules; in places an occasional pustule was noted.

The scalp appeared shiny, and here and there were slightly pigmented areas, similar to large freckles. There were no scars or signs of atrophy.

The skin of the body was smooth, but dry. There was a moderate degree of keratosis pilaris on the elbows and knees, on the extensor surfaces of both legs below the knees, and on the wrists and dorsal surfaces of the hands. There was no true ichthyosis. Both eyebrows were devoid of hair; the eyelashes were present; there was considerable keratosis pilaris in the eyebrows. There was no axillary nor pubic hair.

There was no deformity of the nose; smell was normal.

Vision of the right eye was 20/13; left eye, 20/20. The pupils were equal and reacted to light and in accommodation. There was no nystagmus or strabismus. Both nerve heads and fundi, including vessels and macula lutea, were normal. The left optic disk seemed oval with its long axis vertical.

The teeth were dirty, but otherwise in good condition; none was missing on the last examination. The central incisors were very large.

The neck was full, and the thyroid gland and isthmus were palpable.

The chest was well formed; there was symmetrical expansion, full and equal on both sides. The diaphragm descent was equal and normal. Measurement on inspiration was 71.5 cm.; on expiration, 69 cm.

The lungs were negative to percussion ad auscultation.

There was no precordial bulging and no visible pulsations; the apex beat was palpable in the fifth interspace 7 cm. from the midline. The tones were clear and regular. There were no murmurs. The pulse was 96 and of good quality. The blood pressure was: systolic, 106, diastolic, 68.

The abdomen was slightly scaphoid on reclining. The muscles had good tone. The spleen was not palpable. The upper border of the liver was at the fifth interspace. The lower border was palpable below the right costal border when he took a deep breath. The inguinal glands were slightly enlarged.

The testicles were in the scrotum. There was a long adherent prepuce.

The abdominal and cremasteric reflexes were active; deep reflexes were symmetrical and active. There was no Babinski sign or ankle clonus; the knee reflexes were active.

The hands were coarse and large; the terminal phalanx of the left ring finger was missing. Roentgen-ray examination of the hands was negative, except that the bones seemed larger than are usually found in a boy of his age.

A roentgenogram of the sella was negative. The floor was irregular, but there was no evidence of a tumor.

The blood Wassermann reaction was negative. The red blood count was 4,720,000; the white blood count, 9,600; hemoglobin, 85 per cent.

Differential count of 100 white cells showed: small lymphocytes, 28; large lymphocytes, 2; indentate nucleus, 4; polymorphonuclears, 64; eosinophils, 3.

The specific gravity of the urine was 1.032; it was clear, amber colored, acid and contained a few epithelial cells; no albumin or sugar was present.

The sugar tolerance test was, fasting: blood sugar, 0.099 per cent. Glucose, 49 gm. in lemonade was given. Blood sugar one hour after glucose ingestion was 0.149 per cent.; two hours after glucose ingestion, 0.114 per cent. There was no sugar in the urine after ingestion of glucose. The blood urea nitrogen was 16.31 mg. per one hundred cubic centimeters; total nonprotein nitrogen, 35.17 mg. per one hundred cubic centimeters; basal metabolism test: age, 13; height, 4 feet, 6½ inches; weight 72½ pounds (32.9 kg.); barometric pressure, 749 mm.; spirometer temperature, 27 C.; calories per hour per square meter of body surface, 54.8 calories; normal, 50 calories. The patient's metabolic rate was 9.6 per cent. above normal.

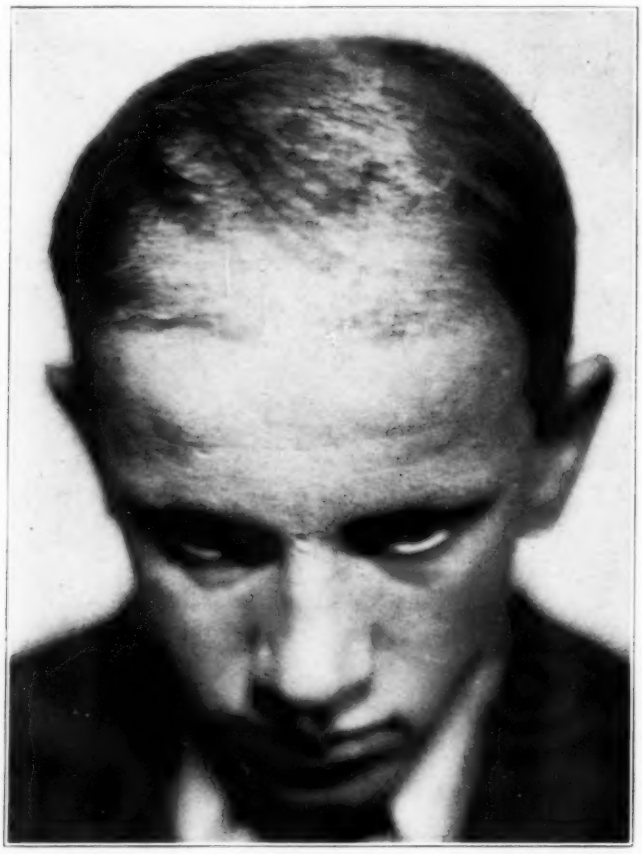

Fig. 4 (Case 2).—Congenital alopecia in older brother.

CASE 2.—Joe Z., aged 16, had an alopecia of the type we see in men who are prematurely bald. He said that when he was his brother's age, 10, his alopecia was just as marked as John's. His hair now was thin, dry and lusterless. It was fairly abundant except on the vortex and on the front of the scalp. There was a great deal of keratosis pilaris over the affected areas. This extended down onto the neck for a considerable distance. The scalp felt like a nutmeg grater. The eyelashes were normal, but the eyebrows were scant. A number of short, stiff hairs were beginning to come in. There was some

brownish pigmentation on the scalp, but there was no scarring or atrophy. The axillary hairs were still absent, but the pubic hairs were beginning to make their appearance.

Keratosis pilaris was a much more prominent feature in this case than in the previous one, as respects the arms, wrists and legs. In those localities it was marked. The front teeth were malformed. The tonsils were very much hypertrophied, but there were no changes in the nails. Otherwise the patient's general physical examination was negative.

Second Admission of First Patient.—Our first patient was not seen after his first stay at the hospital, until January, 1925, three years later. At this time

Fig. 5 (Case 2).—Character of hair growth on top of scalp in brother of patient.

he was induced to return for a further study of his case. He had grown a little and had gained in weight and stature; there was also considerable improvement in his alopecia. There seemed to be much better hair growth on the top of the scalp. The hair was more profuse, was stronger and had more body than it had previously. The keratosis had disappeared to a considerable extent, and all over the scalp could be seen small, stiff, black hairs, some protruding from the follicles, others seemingly curled up there. This was especially noted in the frontal portion of the scalp. The eyebrows were also beginning to make their appearance.

COMMENT

Several cases of both congenital and acquired alopecia have been reported by Levi, Franckel and Juster,[27] Strandberg,[28] Darier,[29] Sabouraud, Gawalowski,[30] and Balzer and Barthelmy, which were definitely on a basis of thyroid deficiency. Barber[31] has reported a case in association with thyroid hyperfunction. Levi and Rothschild[32] have shown the influence exercised by the thyroid on the development of hair in congenital and acquired alopecia, in postoperative myxedema and in thyroidectomized dogs.

It was our first impression that we might be dealing with a moderate hypofunction of the thyroid in the present case. The boy came from a region where goiter was endemic. His skin was dry, and a casual inspection lent some basis to such a hypothesis. Further examination, however, ruled this out. None of the concomitant findings which would be expected to be present in such a condition were found on physical examination.

The boy was of normal stature for his age, and normal physical and mental development. The metabolic rate on his first entrance was within normal limits, although the data for this unfortunately were lost. On his second entrance indirect calorimetry showed a metabolic rate of 9.6 per cent. above the average for his age and body surface.

Alopecia is also present in hypopituitarism, and cases of this kind have been reported by Bell.[33] Again physical examination failed to reveal any evidence of pituitary disorder. The metabolic rate was normal, as previously stated, and the sugar tolerance test was normal.

Suprarenal hypofunction was also mentioned in a case reported by Balzer and Barthelmy. This obviously can be ruled out in the present case.

Levi, Franckel and Juster have called attention to disturbances of the autonomic system as possible etiologic factors in certain alopecia, chiefly pelade. Autonomic function normally shows wide variations due to everyday factors, such as fatigue, slight infections, etc., and is difficult to evaluate.

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27. Levi, Franckel and Juster: Bull. Soc. franç. de dermat. et syph. **30**:113, 1923; Presse méd. **30**:855, 1922.

28. Strandberg: Acta med. **52**:165, 1919.

29. Darier: Bull. Soc. franç. de dermat. et syph. **31**:368, 1924.

30. Gawalowski: Ceska dermat. **3**:41, 1922.

31. Barber: Proc. Roy. Soc. Med. **12**:41, 1918-1919.

32. Levi and de Rothschild: Études sur la physio-pathologie du corps thyroide et de l'hypophyse, 1908, p. 98.

33. Bell: The Pituitary, New York, William Wood & Company, 1919, p. 244.

The present patient showed no variations from normal in his pilomotor reflexes, lacrimation, salivation, vasomotor response or in the response of pulse and respiration to effort.

Pharmacologic tests were made to test the autonomic system, using pilocarpin, $\frac{1}{20}$ grain (0.003 gm.), hypodermically, as a parasympathetic stimulator; atropin, $\frac{1}{100}$ grain (0.0006 gm.), hypodermically, as a parasympathetic inhibitor; epinephrin, 1 : 1,000 solution, 3 minims (0.18 c.c.), hypodermically, as a sympathetic stimulator, and apocodein, $\frac{1}{3}$ grain (0.02 gm.) hypodermically as sympathetic inhibitor. Response was normal in each case except in the case of the pilocarpin, in which there was an unusually slight response as regards perspiration.

The same absence of perspiration was observed in the present case as in that reported by MacKee and Andrews,[34] except in a lesser degree. On his first examination in February, 1922, pilocarpin, $\frac{1}{20}$ grain (hypodermically), showed a normal response as evidenced by salivation. The face became slightly flushed, but the skin during an hour's observation showed only a slight palpable moisture. At no time was there any visible perspiration. The scalp remained dry. In January, 1925, the same test in a response otherwise normal showed only a slight perspiration of the skin, a very slight perspiration of the scalp and again no visible perspiration.

On exertion, running up and down a flight of stairs leading from the second to the fifth story, three times, a slight perspiration was observed on the forehead; the skin became moist, and there was a rise of body temperature (taken by mouth) from 99.2 to 99.6 F. A hot pack of an hour's duration as given as a routine in the ward, under blankets with hot water bottles, brought out no perspiration, and caused a rise of body temperature from 98.6 to 99.4. A rise of room temperature of 1 C. caused the body temperature to rise while at rest from 99.2 to 99.4 F.

CONCLUSIONS

In reviewing the etiologic factors, the following points present themselves: We have what is presumably a congenital alopecia in two brothers, with no antecedent cases in the family as far as we can learn. There are no stigmas of atavism as noted by Hyde. We recognize the possibility of this being secondary to some generalized cutaneous condition, acquired after birth. We do not ourselves believe this to be the case. Our first impression, that the condition was due to thyroid deficiency, we would have believed confirmed if we had used thyroid medication without first determining the metabolic rate. Other endocrine

34. MacKee and Andrews: Congenital Ectodermal Defect, Arch. Dermat. & Syph. **10**:673 (Dec.) 1924.

disorders, as far as we know about them, we believe can be ruled out by the absence of physical findings usually associated with them.

That the autonomic system is a factor, we believe can be ruled out by the absence of any other factors which could be regarded as anomalies of autonomic response or control.

Keratosis pilaris, as suggested by Brocq, is, we believe, an important factor in the production of this alopecia. The comment of the patient on his improved condition was of interest. When asked to what he attributed the improvement, he said that when he forcibly removed the papules by scrubbing his scalp vigorously, he believed he allowed the hairs to come through.

With the improvement in the hair growth there was a corresponding decrease in the keratosis pilaris. As to the etiology of the keratosis pilaris, we have no theory which we can substantiate, but we believe that it is due to some anomaly of intra-uterine development.

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DISCUSSION

Dr. Udo J. Wile, Ann Arbor: I have been extremely interested in Dr. Oliver's paper and in some of the explanations which he advanced as possibilities, because they bear directly on the subject which I hope to present in connection with the alopecia of syphilis. I am particularly struck with the conservative view which Dr. Oliver takes with regard to the failure of his patient to sweat after a hot pack, with pilocarpin, which he hesitates to accept as evidence of some autonomic control. We have been studying this for two years, and I think it of interest to state that the ordinary patient, with forced fluids, hot pack and a single dose of pilocarpin can be made to sweat as much as 600 c.c. in one hour, so the marked diminution of sweat in Dr. Oliver's case is a striking feature and should not be minimized as bearing on the autonomic factor in this type of case.

Dr. Grover W. Wende, Buffalo, N. Y.: While epidermolysis bullosa is common, its association with congenital alopecia is extremely rare. Dr. Guy and Dr. Jacobs, at the meeting in Pittsburgh, presented in one family three cases of congenital alopecia associated with epidermolysis bullosa. As stated by Dr. Oliver, in 1902 I reported in the *Journal of Cutaneous Diseases* a case of congenital alopecia accompanied by epidermolysis bullosa. Many of us recall a case presented by Dr. Towle in Boston in 1921. Luithlen, in Mracek's "Handbook of Diseases of the Skin," states that the cases of Dr. Towle and myself are the first to be published anywhere in which epidermolysis bullosa accompanied congenital alopecia. In my case the skin was so sensitive that it was impossible for the patient, a child, to take any coarse food. The eating of bread would produce blisters in the mouth, while the saliva and the tears running over the face would produce bullae. In this case the congenital alopecia must have been dependent not alone on constitutional causes, but also on congenital malnutrition of the skin.

Dr. William H. Guy, Pittsburgh: We presented three cases of epidermolysis bullosa associated with congenital alopecia, and three cases of congenital

alopecia. All three cases of congenital aopecia occurred in the same family, and in that particular family in three generations there were nine cases. I discussed the family tree with Professor Fish of the University, and his opinion is that it shows a dominant family characteristic, with one half of the cases positive and the other half negative.

The three cases associated with epidermolysis bullosa are of particular interest in that the two youngest patients, aged 3 and 6, showed a congenital alopecia which was marked. The boy, who was 17 years of age, had a normal growth of hair, pubic, axillary and on the scalp, which did not appear until after puberty.

In the other group of congenital alopecias, there was a growth of hair in the case of the mother to the extent of 2 or 3 inches, which also developed after puberty. Schede found sparse hair follicles at the time of birth and afterward. In our cases the children apparently had normal hair until they were 1 year old, when it all fell out. This history was obtained in both of our family groups.

Dr. Samuel E. Sweitzer, Minneapolis: I was much interested in Dr. Oliver's paper. A few months ago I had under observation a girl of 19 who had congenital alopecia associated with epidermolysis bullosa. She gave a history of no hair at birth. The body hairs were present, but the hair on the scalp, eyebrows and eyelashes were absent. Her twin sister had no defects other than a goiter. I gave the patient thyroid extract, and she now has thick hair on the scalp, about half an inch long.

The interesting part of her history was that a few years ago she visited the Mayo Clinic, where she was given some medicine. She did not know what it was, but said that while she was taking the medicine the scalp hair grew long enough to curl, but after returning home she did not take the medicine and the hair fell out.

This patient also had defective nails and teeth.

Dr. Edward A. Oliver, Chicago: The chief reason for studying these cases was that in the French literature several cases have been reported which were thought to be due to autonomic dysfunction. In those cases, so far as we could see, there was no effort made to study them from a metabolic point of view. A number of these patients had been put on thyroid extract medication, and because they improved the condition was ascribed to thyroid deficiency. We would have tried this patient on thyroid medication, but because of his environment it was difficult to get any cooperation in the treatment.

MORPHOLOGIC VARIATIONS IN A RINGWORM SPECIES OF THE TOES

FOLLOWED IN PRIMARY CULTURES OVER A PERIOD OF YEARS *

FRED D. WEIDMAN, M.D.
PHILADELPHIA

Those who undertake to study cutaneous mycology read but a short distance into the subject before they become acquainted with the property of pleomorphism (or better, polymorphism) which is expressed to a unique degree by the ringworm fungi. If they embark on culture studies the importance of this property will at once be borne home, because it immediately complicates the problem of determination of species, which is the very foundation for advance in this as in other parasitologic fields. Probably every dermatologist is aware that variations in cultural characteristics result from trivial alterations in the composition of the mediums, and those who have done practical work will add that even the moistness (freshly prepared or not) of the medium, the thickness of the layer which it constitutes and the extent to which the strain has been subcultured have more or less effect on these capricious organisms. Indeed, variations in form sometimes occur in a series of subcultures made under identical conditions, for which there can be only the explanation that there were differences in growth energies or other vital qualities of the material which was planted. This is more readily understood when we recall that fungi are much higher in the plant scale than bacteria, and that the fully developed ringworm colony is not uniform in composition (as regards reproductive elements) in all its parts any more than is, say, a grape vine.

To develop this idea a little further, let us compare the situation with that of some of the better known higher plants. There are numerous ones, the common dahlia, for instance, in which propagation may take place either by bulb (or bulb cuttings) or by seeds. Horticulturalists tell us how the seedlings vary: they exhibit numerous gradients of color, of single and double flowers, of vigor of growth of the plant as a whole, sports, atavism, etc., even when the strain has been hand pollenated. Even when propagation is accomplished by bulbs alone, and when no mendelian effect can be invoked, the flowers of some dahlias vary in color from year to year. Passing to the case of fungi, propagation may take place from arthrospores, which are part of the mycelium (essentially vegetative), or from fuseaux, which are modifications of mycelium, or from conidia. The latter compare with spores or seeds.

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* Read at the Forty-Eighth Annual Meeting of the American Dermatological Association, Washington, D. C., May, 1925.

* From the Laboratory of Dermatological Research, Department of Dermatology and Syphilology, University of Pennsylvania, Philadelphia.

In making plantings of ringworm material, spores and mycelia are ordinarily used in unknown proportions; and if there are differences in the growth products of the two, it might follow that the secondary plantings would vary. Fortunately, however, with most species the appearances of secondary plantings are uniform, so that the aforementioned considerations are not factors in practical, everyday work. In the occasional case, however, in which unusual and perplexing results crop out, as in my case, and when it is certain that the culture is pure, they should be kept in mind as affording a possible explanation.

So exacting are the requirements of ringworm species that they might be unjustly accused of being capricious by the baffled and pessimistic worker who does not take into account and make due allowance for the environmental and other factors in connection with the particular colony under consideration. Only by planting and replanting the same strain on different batches of the same medium can the worker educate himself to the limits between which a given species may range in morphology.

One of the effects of the considerations enumerated above is a disagreement among mycologists as to the number of valid species extant. Sabouraud may be regarded as the champion of the larger number, but there are others who believe that many are but variants of a smaller number of basic species. The point of issue is thus the same as that which obtains in so many other biologic fields, i. e., whether the differences in characters are of specific rank.

The light which my experience throws on this subject is, I believe, a new one. It relates to variations within the species not as it occurs in the test tube, but in the lesion. I have had a personal experience with ringworm of the toes for at least eight years. Until recently the lesion had not been seriously treated, and cultures have been made at intervals of every few months during the last five years. Such frequent cultures were made because the material was needed for teaching and for experimental work in general mycology. This explains why I have so many photographs, both gross and microscopic, of cultures dating five years back. The following results were not anticipated; they came as a surprise.

RESULTS OF CULTURAL WORK

It would be superfluous to record the findings with earlier cultures, because at that time we had not adopted a standard medium; but since our experiments of 1921, which were largely confirmed by Hodges, we have adhered to Sabouraud's glucose medium as representing the established standard surviving after the passing of his crude maltose formula. The mediums were therefore uniform in the cultures which are reported herewith. Imported Chassaing peptone and American crude dextrose (controlled by the French) were used.

The cultures first obtained in 1920 were tentatively regarded as *Trichophyton radiolatum,* but when, after adopting the standard glucose medium the radiating qualities were never developed in culture and the surface never became powdery (even on repeated trials) the diagnosis was changed to *Trichophyton interdigitale* Kauffman-Wolff. I have records of no less than five separate cultures obtained, and estimate that an equal number was taken without being recorded—all voluminous and with the same soft, snowy surface. Then, in February, 1925, a typical "gypseum" strain suddenly appeared, the colony being much flatter than previous ones and covered now by an abundant white powder. This form has been maintained in three subsequent plantings.

Microscopically, the new strain appeared to be the same as the old. It exhibited the traditional characters of the gypseum group. Thus, there were a few satellite colonies in the periphery of the parent one, and "engrappes," "fuseaux," "spirals," and "thyrses sporiferes" were

Microscopic Characters—Trichophyton Gypseum Group

	Satellites	Grappes	Fuseaux	Spirals	En Racquette	Lattice	Thyrses Sporiferes	Chlamydospores	Organes Nodulaires
Trichophyton asteroides....	—	+++	+++	+++	?	+++	++++	?	—
Trichophyton radiolatum...	++++	+++	+++	++++	+	—	++++	?	—
Trichophyton interdigitale..	?	+++	—	++++	?	?	++++	+	—
Trichophyton personal 488..	?	+++	+++	++++	—	—	++++	+	—
Trichophyton personal 1043.	+	+++	+++	+	—	—	++++	+++	—
Trichophyton granulosum..	+	++	—	—	?	—?	+++	+†	—
Trichophyton lacticolor.....	+	++	—	—	?	—?	++++	?	++++
Trichophyton persicolor.....	?	+	+	?	?	—?	+++	?	++
Trichophyton farinulentum.	+	+	+	+++*	?	+	+++?	?	—

* Compound, suggesting perithecium formation.
? Not specifically mentioned in printed descriptions.
† Conglomerate, suggesting (but not) organes nodulaires.

borne in abundance on a remarkably wavy or even spiral mycelium. There were numerous intercalated chalmydospores, many of which were aggregated and conglomerated as in *Trichophyton granulosum.* I could not find any "organs nodulaires," or mycelium arranged into "lattice" formations or "en racquette." These characters are compatible with the published description of *Trichophyton interdigitale,* except in respect to fuseaux, and, with minor exceptions, *Trichophyton asteroides* and *radiolatum.* The table illustrates the situation from the point of view of the microscopic appearance. The feeling of the author is that some of the differences recorded must not be interpreted too strictly—any more than those of gross cultures; but at present we cannot state precisely which characters are variable in the different species. We must here call attention to Hodges' [1] similar experience; cultures from the thigh of a ringworm patient were different from those of the nails.

1. Hodges, R. S.: Ringworm of Nails, Arch. Dermat. & Syph. **4**:1 (July) 1921.

Fig. 1.—Original appearance of colonies, surface downy; primary culture.

Fig. 2.—Appearance of colonies obtained from same lesion three years later; surface powdery; primary cultures.

For several weeks prior to the development of these powdery cultures a yeast culture had been applied at semiweekly intervals to the ringworm lesion. This culture was obtained from the normal feet of a medical student and was applied in connection with attempts to discover some yeast species which might have therapeutic value by replacing the flora of ringworm toes just as Metchnikoff would replace the noxious flora of the intestines with *B. bulgaricus*. It is possible that this was the factor which was responsible for the change in the form of the cultures; in fact, the type of change was the one which might be expected where the organism had been in or on an adverse environment. Thus, we had noted in 1920 that when this species was grown in a Petri dish in a thin stratum of medium, its surface became powdery and the vegetative elements (mycelia) so sparse that the colony became expressed in a low,

Fig. 3.—Colonies on thin stratum of medium in Petri dish. This planting was made five years ago on proof medium, containing Difco maltose and peptone, which did not support growth as well as the French products; surface highly powdery.

flat form. Transplanted to a thick stratum of medium, the colony at once assumed the more highly heaped-up, downy qualities which bespoke a ranker growth of mycelium.

The question might be raised whether these two colonies were of the same species; that is, whether the first colony had not been replaced by a new species. This is not beyond possibility in the strict scientific sense, but in view of the unaltered clinical course of the disease, the fact that the powderiness had been elicited five years ago, although on thin strata, and that the alterations took place contemporaneously with the yeast tests, I feel that the balance of evidence is in favor of the two being of the same species.

Whatever be the explanation of the phenomenon, whether caused by the effects of the yeast introduced or by such different factors as variations in reaction of the sweat, new bacterial flora, etc., it remains a fact that the morphology of a fungus which had been constant for three years suddenly changed from a purely downy to a markedly powdery one. The broader effect of this observation is to expand the range within which one and the same ringworm species may vary morphologically, even when kept under apparently identical conditions on the human skin. Whether a similar range obtains for other species is a question. The answer could only be secured from repeated examinations of patients in whom the type of ringworm was one with a prolonged course. The narrower effect is in relation to the members of Sabouraud's *Trichophyton gypseum* group, the differences between which are slight. There has always been a question in my mind whether, botanically speaking, *Trichophytons asteroides, radiolatum* and *interdigitale* were different species.

SUMMARY

Following the implantation of a nonpathogenic yeast directly on a ringworm lesion of the toes, a ringworm fungus species, the primary culture of which had had a constant morphology for three years, suddenly changed from the downy to the powdery type.

This variability means that we must expand our conception of the extent to which variation may occur in identical ringworm species as they come directly from the lesions and make due allowance therefore in the determination of species. This applies particularly to members of the *Trichophyton gypseum* group.

DISCUSSION

ON PAPERS OF DRS. WILLIAMS AND WEIDMAN

Dr. Ernest L. McEwen, Chicago: Yesterday Dr. Stillians had occasion to consult one of the men in the Department of Agriculture relative to the nature of a mold, and I would like to have Dr. Stillians tell us what he found out.

Dr. Arthur W. Stillians, Chicago: It was in regard to a fungus which we found in Chicago. We know it is *Monilia*, but I do not know which kind. I was advised to take it to the Department of Agriculture, and there Mr. Charles Thom of the Bureau of Chemistry told me that he did not know which variety it is and perhaps could not tell on further examination. He said there is no department in the government service for the study of fungi pathologic for man, and urged me to do what I could in the direction of having such a department formed. He is glad to make the studies but has not the time or facilities. He was enthusiastic about the subject and thought there was great need for having this work started in Washington under government authority.

Dr. Charles J. White, Boston: With me this problem is becoming almost an obsession. In my practice these disorders rank third or fourth in number,

and it seems to me wise that some plan like that mentioned by Dr. Stillians should be carried out. We are constantly asked by our patients, "Where did I get it?" and "How can I be cured?" Personally, I know very little about these fields, and it seems to me that it might be very well to choose this for our subject for discussion next year.

In Harvard College, I am glad to report, there is a new course in mycology which should enable our students to learn something in this puzzling field.

Dr. Ernest L. McEwen, Chicago: I was with Dr. Stillians during the interview at the Department of Agriculture, and the doctor with whom we talked seemed to be definite on the point Dr. Stillians has brought up. He said that there was no way to differentiate and classify these organisms unless there is an opportunity to work with animal tissue, which at present there is not. If pressure could be brought to bear on the Surgeon-General and Congress to put through an appropriation for this work, the results would be extremely valuable. It seems to me that this is possibly a field in which such an organization as the American Dermatological Association might be influential in getting something of great value accomplished.

Dr. Henry H. Hazen, Washington, D. C.: About two years ago, the Public Health Service became much interested in the subject of pathogenic molds. This was probably brought about by the fact that many men in the department lost a great deal of time from work because of this affection. The Surgeon-General thought that infection with the ringworm fungus was becoming a serious public problem. Plans were laid for the Public Health Service to go largely into this work. Four men were selected. There were to be five men on full time service under the direction of Dr. Lake. About that time Dr. Lake became seriously ill, and I was not well, and the work has lagged up to the present time. The Public Health Service is greatly interested in the matter, and it is possible that with a little urging they will be able to thrash out the whole question. It seems to me that it might be well to have this Association go on record as endorsing such a movement.

Dr. Lee McCarthy, Washington, D. C.: I fear I cannot add very much to Dr. Williams' excellent paper. However, in studying a series of about 600 of these cases of mycotic infection of the hands and feet and personally inspecting every one of the dispensary patients, I never encountered a case such as those Dr. Williams reports. When there is a lesion on the wrist, it often extends down on the palm, on the dorsum of the fingers and upward on the arm. I do not believe the ectothrix group of trichophytons can cause these chronic infections on the hands and feet. They produce such a marked reaction locally that the disease is self-limited, and it clears up in a few weeks.

There are many organisms which in culture look almost exactly like certain members of the *Asteroides* group of parasites, but on making guinea-pig inoculations and studying their organs of fructification in the hanging drop, they are found to be entirely different. Instead of being trichophytons, they are found to be true epidermophytons, and are never seen to attack the hair either clinically or in animal inoculations.

An interesting point in the treatment was that a successful cure of these mycotic infections of the hands and of the feet depends largely on the mechanical application of the medicinal agents employed. The patient was advised to use a pumice stone to remove all excess and dead horny epithelium every morning and night, then to rub in, with considerable friction, a 1 per cent. solution of iodin in alcohol (Sabouraud) nights and the following morning to apply a

Whitfield's ointment modified to suit the individual case. Under this treatment the patients seem to improve rapidly. When these patients were followed up for ten months, few recurrences were found when the infection had been cleared up. Whether this was due to the particular types of parasite encountered in Paris or not, I do not know.

Dr. Fred Wise, New York: In connection with the paper it might be of interest to state that a certain percentage of patients with tinea capitis who were treated at the Vanderbilt clinic, especially negro children, showed a trichophytid eruption on the trunk after roentgenotherapy, especially on the upper part of the back. We have noted this on numerous occasions, and have attempted to obtain definite microscopic evidence from the skin outside the scalp, but were not successful. I should like to know what Dr. Williams' opinion is in this connection.

Dr. Sigmund Pollitzer, New York: These cases are so rare that I venture to report one, imperfectly it must be admitted, as I made no cultures. The case, however, was so typical clinically that there was no doubt as to its nature.

A young woman presented herself who had a rather severe trichophytic eruption of the soles that had been present for a few weeks. I prescribed Whitfield's ointment, but with little apparent benefit. The condition extended. On the third day, she called my attention to a very fine, itching, lichenoid eruption on the forearms and arms. I continued the treatment with the Whitfield ointment, making the ointment a little stronger. The condition on the soles persisted and became worse, until both sides of the feet were covered, and the pruritic, lichenoid condition on the arms extended and included both sides of the trunk.

I then directed the patient to soak the feet for fifteen minutes twice a day in a potassium permanganate solution—a course of treatment that was followed by an astonishingly favorable result. The lesions on the feet, arms and sides of the trunk disappeared completely in the course of four or five days. A simple ointment for the feet soon completed the cure.

In regard to the subject brought up by Dr. Stillians, if I have unanimous consent I should like to move that the chair appoint a committee to prepare a resolution recommending on behalf of this Association that the Surgeon-General of the Public Health Service take steps to have a committee appointed. (This motion was seconded and carried.)

Dr. Charles M. Williams, New York: I am glad to hear Dr. White's confession of ignorance and wish to put myself in the same class. I think this is the most difficult class of patients we have to treat. In some of the cases in which the etiology is difficult to work out they may be traced to some young person in the family who has an occult inflammation between the toes. I recall a case seen recently in a woman who denied that any other member of the family had the condition, she was not given to gymnastic work; on the third visit I discovered that her son, who was in college, had an inflammation between the toes. This was the probable source of the infection. The more we go into these cases, the more we find that they are family matters; some have small scaling areas between the toes, which are not considered worth treating, and some have a more severe condition. The most common source of infection that I have found is the gymnasium, where the boys go around barefooted in the bathroom.

The treatment must be persistent, and I think the reaction of the skin and tissue is more important than the germicidal action of the drug. How else can we account for the benefit from Whitfield's ointment and chrysarobin, which

has been shown not to be a parasiticide? The exfoliation and persistence in treatment I consider the two most important elements in the treatment.

As to the question of trichophytid after the roengenotherapy, we have all seen these cases of *Microsporon* or *Trichophyton* infection in which roentgenotherapy was followed by eruption either pustular or lichenoid in character. These are usually accounted for by European authorities as trichophytid. I have never found any satisfactory explanation, but apparently the roentgen ray may release from the organisms some substance that produces the secondary eruption. A tinea on the body anywhere is not to be considered a local but a generalized disease. It may be present but inactive, and any skin irritation, like roentgenotherapy, may produce a secondary outbreak. As a rule, the organisms are not found in this secondary eruption. They may be occasionally, and when they are found they are invariably, as far as I can make out from the literature, found there on the first or the second day. After that they disappear. In other words, the skin is so sensitized and the resistance of the body is so increased that the organisms exist in the body for a few days only and then disappear. In these cases it is the resistance of the patient that cures.

Dr. Pollitzer's case interests me very much indeed, particularly the lack of response to Whitfield's ointment. That was the same experience I had in my Case 1, in the tinea of the hands. Whitfield's ointment for a week did no good. I then changed and instructed the patient to scrub hard with soap and water, but I think it was the reaction of the patient and not the scrubbing that cured. I think it was the development of the patient's resistance by the development of the disease.

Dr. Frederick D. Weidman, Philadelphia: The only thing I have to discuss further is the matter of the frequency of the tricophytids. I can see how in the deep cases (tinea profunda and kerion) there may be the production of substances which may be responsible for these eruptions, but in the common run of superficial cases we have to go carefully. I think that they are rare compared to the large number of cases of ringworm we frequently see.

In some cases they may be explained on the basis of the surface dissemination of the fungus. I have seen two examples of this which showed that fungus from one lesion could be transported to a different focus of decreased resistance.

One was a case of what seemed to be tinea cruris, which extended over the trunk up to the axillary region and down to the umbilicus and groins. *Microsporon minutissimum* was found microscopically, which at once showed that the distribution was also good for that of erythrasma. In the café au lait patches of the shoulders and neck and around the umbilicus *Microsporon furfur* was found, but no *Microsporon minutissimum*. We had here two different fungus diseases, the combination of which resembled tinea cruris. Much to my surprise *Microsporon furfur* was also present, albeit scantily, in one axilla; this intermixture in this position is one of the two points to this discussion.

The second case was clinically typical and thought to be purely pityriasis rosea. One of the members of the staff brought in scrapings from just above the elbow in which he had found a fungus, and it was again *Microsporon furfur*. On further examination of the patient, a few patches of tinea versicolor were found on the back. Here were two cases in which there was a "spilling over" of fungus from one lesion into those of another. Undoubtedly, we may have a distribution of fungus from remote parts of the body, but I would caution against jumping to the conclusion that lesions are trichophytids when they are at all suggestive of something else.

ERYTHEMA ELEVATUM DIUTINUM

REPORT OF A CASE, WITH COMMENTS ON ITS NOSOLOGIC POSITION *

WILLIAM B. TRIMBLE, M.D.

NEW YORK

Crocker and Williams [1] called attention to erythema elevatum diutinum in the *British Journal of Dermatology* in 1894, and to these writers we owe most of our knowledge of the condition; they are also responsible for the name. It seems that previous to this time there were several allied cases reported; even as far back as 1878 Hutchinson [2] recorded an unusual case, which was afterward thought to be akin to the disease under consideration.

AUTHOR'S CASE

History.—I. S., a man, aged 45, married, born in Russia, a pedler, was a well developed man, much below medium height, who weighed about 140 pounds (63.5 kg.). Except for several attacks of rheumatism, he had enjoyed reasonably good health. The patient's mother died at about the age of 68; the infirmities of age was given as the cause. The father, though quite old, was still alive. He had two brothers and one sister, all alive and well. The patient said that he had had several of the diseases of childhood, although his memory was not entirely clear on this point; other than this, he had enjoyed fair health with the exception of rheumatism; from time to time he had suffered from subacute rheumatism in the knee and shoulder joints. He frequently had soreness of the joints, and one acute exacerbation two years ago had confined him to the house for four or five weeks.

On the inner side of the dorsal surface of each wrist, covering and surrounding the head of the ulna, there was a lesion or plaque. The distribution was symmetrical. These plaques were basically bright pink, though when viewed from the side or at an angle there was an indistinct yellowish white or ivory hue apparent, and some lividity. When the skin was picked up between the fingers, the plaques were densely infiltrated, seemingly one-fourth of an inch (0.6 cm.) thick; they were raised above the surrounding skin, with the thickest part in the center, gradually becoming less infiltrated as the border was approached; in other words, the infiltration shaded off as the border was reached although the lesion itself, as far as color was concerned, was sharply demarcated against the healthy integument. On close scrutiny, a number of rather indistinct, closely set, deep-seated, whitish miliary lesions could be observed shining through the epidermis just to the outer side of the head of

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* Read at the Forty-Eighth Annual Meeting of the American Dermatological Association, Washington, D.C., May, 1925.

* From the Department of Dermatology and Syphilology, New York University and Bellevue Medical College.

1. Crocker and Williams: Brit. J. Dermat. **6**:1, 1894.

2. Hutchinson: Illus. Clin. Surg., vol. 1, 1878; Brit. J. Dermat., vol. 1, 1888-1889; Arch. Surg., vol. 2, 1890-1891.

the ulna, the epidermis being stretched and somewhat translucent in this area. The lesions were smooth over the surface, oval in outline and the size was about 3 inches (7.6 cm.) in the longitudinal diameter, and about 2 inches (5 cm.) in the transverse measurement. There were no subjective symptoms, not even tenderness on pressure. The duration of the condition was six years. The only other lesion on the man's body was a small tumor deeply seated on the front of the right knee joint. This lesion was not painful and caused him no inconvenience.

There was no history of previous venereal infection. The complement-fixation test was negative. The Moro tuberculin test was negative. Urinalysis disclosed a small percentage of sugar, otherwise it was practically normal; however, on account of this discovery of sugar in the urine a blood examination was made.

From these examinations it can readily be seen that the patient was diabetic, although he presented no clinical symptoms and was unaware of this condition.

Examination of the blood revealed: nonprotein nitrogen, 35 mg. in 100 c.c. of blood; urea nitrogen, 16 mg.; uric acid, 3.5 mg.; creatinin, 1.5 mg; sugar, 386 mg. The alkaline reserve was 58 per cent. Urinalysis revealed: specific gravity, 1.026; albumin, absent; sugar, present, 3.5 per cent. acetone, diacetic acid, blood and bile, absent, with a trace of indican. Microscopic examination revealed many urate crystals, a few epithelial cells, an occasional mucous shred, no pus, blood cells or casts.

Pathology.—The epiderm showed slight hyperkeratosis and slight thickening of the prickle cell layer with intracellular edema of the basal layer. The entire corium showed marked fibrosis down to the subcutis, with slight round cell infiltration about the vessels, sweat ducts and coil glands. The fibrosis consisted of a variably arranged network of stout collagen fibers, in the meshes of which was a rather marked quantity of apparently clear fluid which did not stain. In a few places, the collagen bundles were arranged in whorls, and in these places the edema was more marked. In a few locations were foci of large cells, that is, cells with small nuclei and a large amount of "foamy" cytoplasm.

The histologic picture corresponded to that described in "erythema elevatum diutinum."

COMMENT

As stated in the beginning, previous to the publication of the article by Crocker and Williams, a small number of rare and curious cases of a nodular condition of the hands had been reported by Bury,[3] Hutchinson and others; since that time it has been the tendency on the part of some observers to link up all these cases as being connected, or in some way related, to the disease in question. The decision or suggestion to ally these isolated cases with erythema elevatum diutinum was evidently made after the report and description by the authors mentioned, but in my opinion this alliance does not seem to be justifiable. For example, a German case of Soemmering's [4] has been cited by Sir Jonathan Hutchinson in which the tumors were as large as English walnuts, or even larger, and the hands were distorted, almost beyond

3. Bury, J.: Illus. Med. News **3**:145, 1889.
4. Soemmering: Hutchinson's Arch., vol. 11, 1891.

recognition. The tumors or nodes in the case of Bury were also numerous and were scattered over practically all the fingers of both hands.

It seems a far cry from the Soemmering case to the one under discussion, and in comparison, there seem to be no points of objective

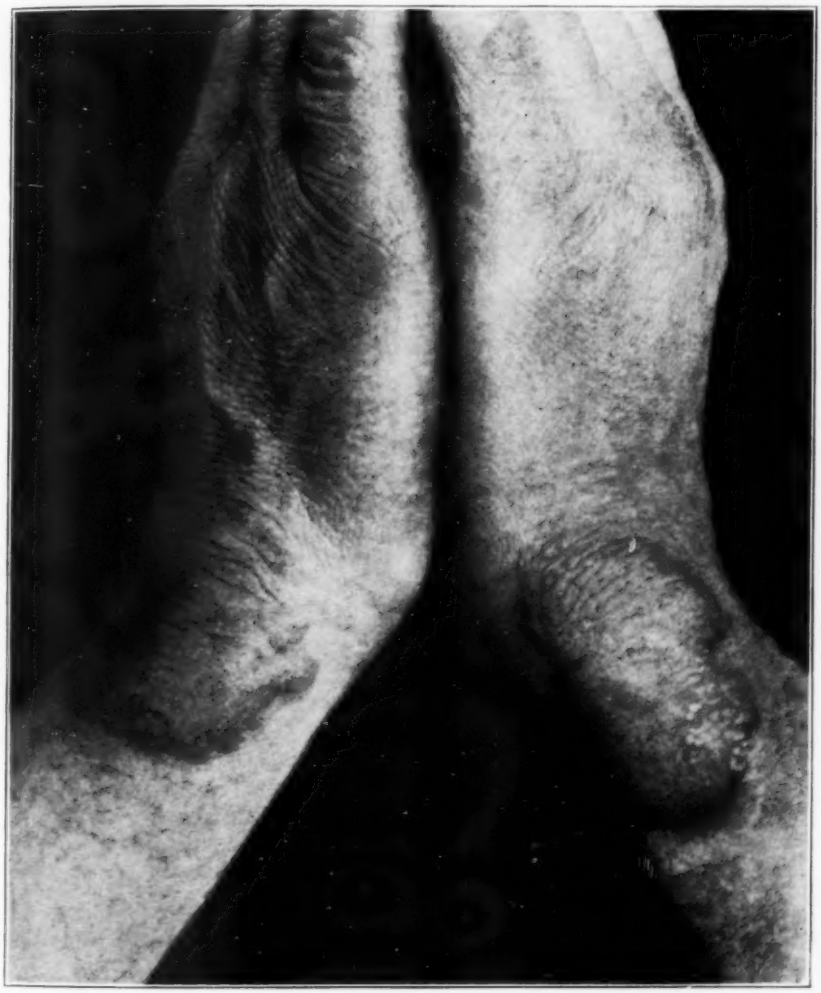

Fig. 1.—Erythema elevatum diutinum of wrists in author's patient.

similarity. In reality the only connecting link is that almost all the cases recorded occurred in rheumatic subjects or gave a family history or rheumatism. This is said in the face of the fact that Dr. Radcliffe Crocker has admitted that the Bury case resembled his own.

Perhaps these last few statements might be modified by the fact that the malady presents itself in two varieties: the nodular and the flat or plaque type. This division into types has already been mentioned casually in the literature, although it has not been stressed.

It is evident from information gained mainly from reading that the disease manifests itself first as a nodule and after considerable time flattens into a plaque. Should several nodules exist, close together, coalescence takes place and flattening occurs. It is apparent that the condition has a nodular character in the beginning, although eventually the nodular element is entirely lost, and the lesion assumes the character of a smooth, flat, pink infiltrated patch.

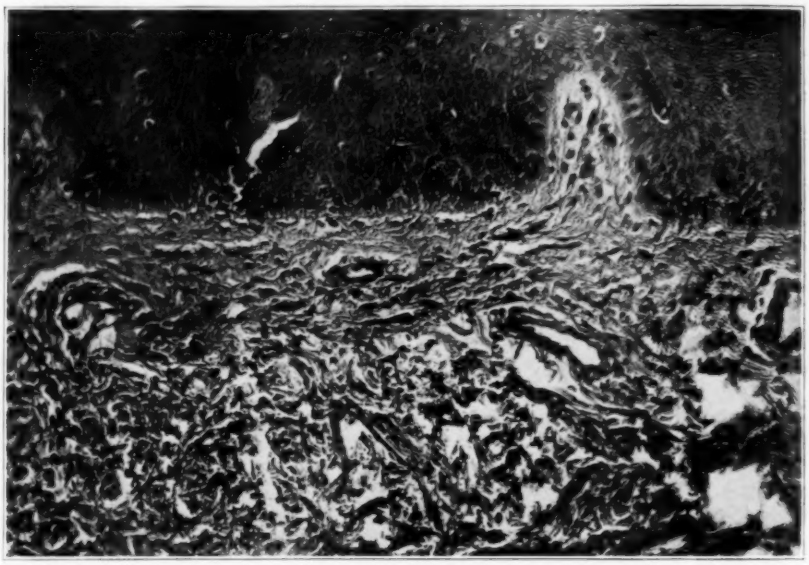

Fig. 2.—Dilated lymph spaces in the corium, and proliferation of fibroblasts; moderate hyperplasia of epiderm.

Crocker, in an attempt to classify the condition, thought it advisable to make a division into two varieties of the disease; he terms them the Bury type and the Hutchinson type, and compares the main features in parallel columns. The Bury type comprises those cases that are characterized by large tumor formations which remain in situ for an indefinite period, have their locations over articulations and occur mainly in young females with a personal or family history of rheumatism. This variety does not lose its nodular nature.

The chief features of the Hutchinson type are flat nodules which later flatten into plaques and lose their nodular character. They are erythematous, infiltrated patches which have no special predilection for the articulations, and which usually occur in elderly men.

The group of cases published by Hutchinson are listed in the *Archives of Surgery* under the title of "Purple Patches of the Skin." They have a striking resemblance to the case presented in this article; therefore this case would belong to the so-called Hutchinson type.

From a reasonable survey of the literature and rather careful reading, together with a somewhat protracted period of mental digestion, the opinion is deduced that the Bury type is seemingly another malady and is not related to erythema elevatum diutinum. It is preferable merely to state that the disease can occur in two forms, the early or nodular and the late or plaque variety.

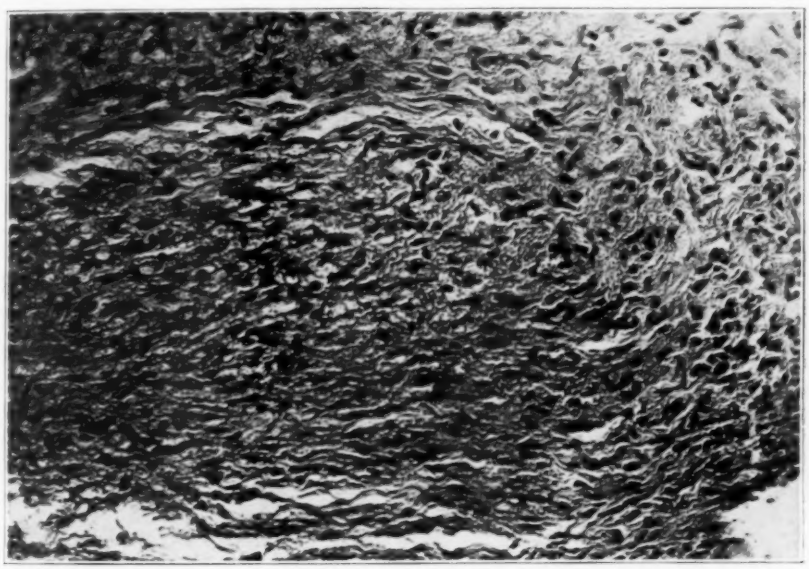

Fig. 3.—Edema and fibrosis of the deep corium down to the subcutis.

A number of the latest textbooks on dermatology class granuloma annulare and erythema elevatum diutinum as the same disease, saying that the latter is a variant of the former.

This classification is somewhat difficult of comprehension, since granuloma annulare is a ringed eruption occurring for the most part in children and young adults, the ring consisting of a number of small, yellowish-white, opaque nodules, so-called pearl crescent, arranged in a complete circle or segment of a circle, with a normal or slightly atrophic center; while in erythema elevatum diutinum the lesion is a raised, thickened, flat, pinkish and purplish plaque, with no central clearing; in fact, the center is the most pronounced part of the infiltration, and the most frequent subjects are elderly men.

According to Hartzell, the main histologic feature of granuloma annulare is a deep-seated infiltration with an area of central necrosis. The histopathology of erythema elevatum diutinum is one of fibrosis. In the author's conception, the disease is a clinical entity and is not in any sense the same as granuloma annulare.

DISCUSSION

Dr. Sigmund Pollitzer, New York: I wish to express my thanks to Dr. Trimble for bringing up this subject. The differentiation of granuloma annulare and this disease has always been a source of trouble, not only to myself, but also I think to most of my colleagues in New York. Granuloma annulare has been described by a number of authors whose accounts of its histology differ so greatly that some of the cases I believe may well have been erythema elevatum diutinum.

One characteristic of the disease is its great rarity. I think Dr. Trimble's is the first case that has been observed in New York.

Dr. Frederick D. Weidman, Philadelphia: I should like to ask whether the blood sugar determination was made in the case.

Dr. William B. Trimble, New York: There was no blood sugar determination made in this case, and in the notes of similar cases previously reported no mention was made of the blood sugar. This was the first case I ever saw.

I have regarded it as a definite clinical entity. I used Hartzell's argument that he found central necrosis, but that observation is not mentioned. I think Dr. Gilchrist reported a case several years ago, and another author reported another. Both cases occurred in the United States but not in New York.

SARCOID OF BOECK

A REPORT OF THREE CASES *

KENDAL P. FROST, M.D.

LOS ANGELES

REPORT OF CASES

CASE 1.—*History.*—Mrs. M. A., aged 36, first seen in October, 1924, complaining of a skin disorder of eighteen months' standing, first noticed a small painful lesion above and in front of the right ear. This lesion discharged pus, healed and left a scar. New lesions appeared near this and progressed toward the center of the face, leaving a discolorization as healing occurred. At the time of examination the lesion was a crescentic row of nodules, extending with the convexity toward the nose, with the tips of the crescent approximately at the poles of the right ear. The nodules were the size of a split pea to slightly larger, and slightly darker than the surrounding skin. There was an atrophic scar in front of the upper pole of the ear, and considerable dark blotchy pigmentation inside the arc of activity. A Wassermann test was made on two occasions, the first one being negative and the second slightly positive. One course of antisyphilitic treatment was given. There was slow improvement while arsphenamin was being administered, but when the medication was changed to mercury, the condition remained stationary. The patient then dropped out of sight for several months. When next seen the nodules were larger and more spread out, some being about 1 cm. in diameter. The central portions were depressed, and covered with a thin adherent scale. On palpation they were wider and deeper than appeared by inspection. At this time she called attention to a lesion in the scalp, which she noticed in its present state. She did not know when it first appeared. It was about the size of a silver half dollar, devoid of hair, the border slightly purplish, the center depressed and grayish. On palpation there was considerably more infiltration than was apparent at sight. A nodule from the face and a section of the scalp lesion were excised for microscopic examination.

The patient was pregnant once; abortion was self induced. Her past history was negative. She had had the common diseases of childhood; at 12 years she had had typhoid fever, and in 1919 influenza. She had had no operations. Her father died at the age of 47 of pneumonia. Her mother was living and well. Three brothers were living and well. One died in infancy. Her husband died following an operation.

Physical Examination.—This was negative. The blood pressure was 106 systolic and 68 diastolic. Examination of the blood revealed: hemoglobin, 88 per cent.; red blood cells, 4,440,000; white blood cells, 7,200; differential count: polymorphonuclear leukocytes, 66; small lymphocytes, 29; large lymphocytes, 5. The Wassermann reaction was negative. A roentgenogram of the chest was negative.

Treatment.—She was given arsenic by mouth. In about two weeks the lesions began to show improvement, which has been continuous.

Histopathology.—There was no change in the epidermis. The papilli were slightly flattened. There was some dilatation of the capillaries in the corium.

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* Read at the forty-eighth annual meeting of the American Dermatological Association, Washington, D. C., May, 1925.

In the deeper layers of the corium and subcutaneous tissue were circumscribed collections of cells, mostly grouped around the hair follicles, sweat glands, nerves and blood vessels. Some of these groups were fairly well encapsulated, while others were more diffuse, the cells being scattered through the surrounding connective tissue. There were little dense groups traversed by connective tissue fibers, but the larger, more compact ones were almost without connective tissue. The infiltrate was composed of small round cells, with large numbers of endothelioid cells scattered through the mass. In places there were a few polymorphonuclear cells and an occasional multinuclear cell corresponding to the so-called foreign body giant cell. Tiny foci of necrosis were scattered through the infiltrate. No acid-fast organisms were found.

Fig. 1 (Case 1).—Lesions of the face.

Case 2.—*History.*—Mrs. F. M., aged 35, a Mexican, whose history was fragmentary, owing to difficulty of language and the unwillingness of the patient to cooperate, had a skin disorder of nine months' duration on the right arm and right leg. Both areas appeared at approximately the same time and remained stationary during most of the period. They caused her no inconvenience, and otherwise she was well. She was married and the mother of five children.

Physical Examination.—On examination, two areas were found involved. On the right arm medial surface, at the level of the elbow, there was a large purplish infiltrated plaque with sharply defined sloping margins. There were a few dis-

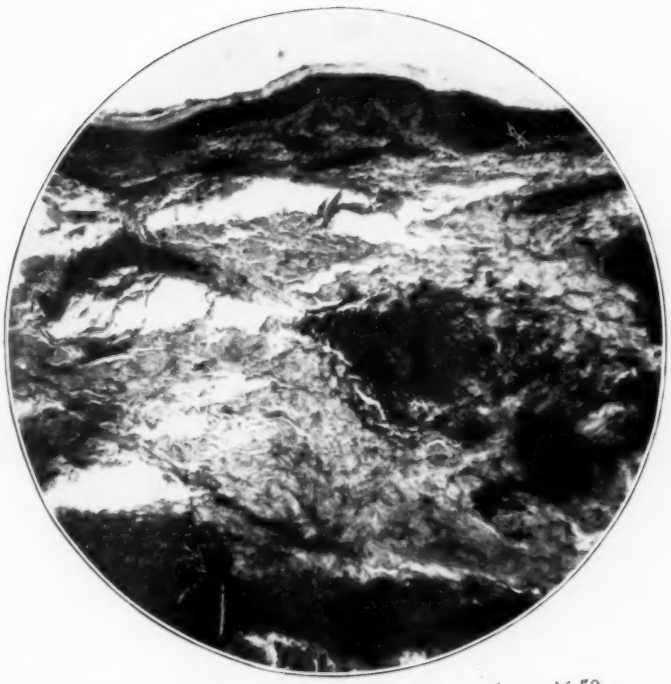

Fig. 2 (Case 1).—Cell masses in the corium; × 50.

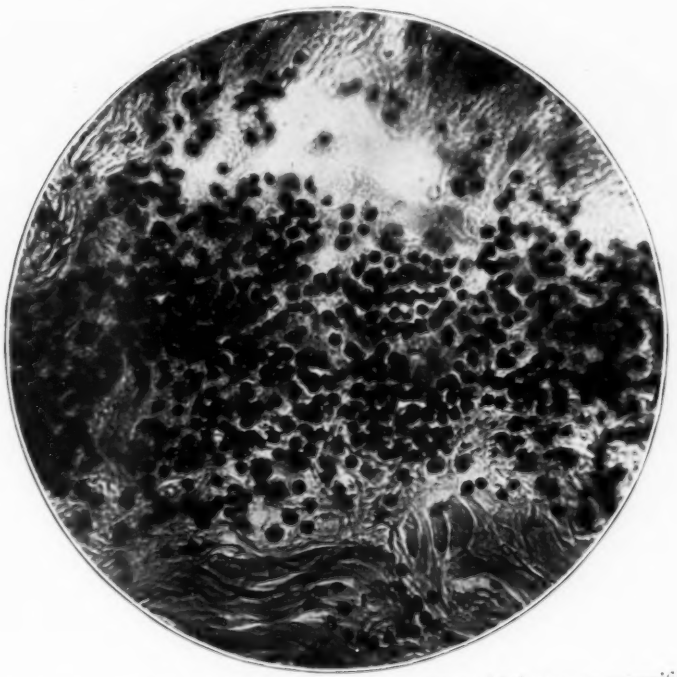

Fig. 3 (Case 1).—Endothelioid cells in the infiltrate; high power magnification.

crete deep nodules scattered around the edges. On the right leg below the knee, there was a large irregular patch, more nodular in character than the arm lesions. In some places the nodules coalesce to form plaques, but there are many discrete ones. This lesion occupied an area from the ankle to one fourth of the distance below the knee, and about the anterior one third of the circumference of the leg.

Physical examination was otherwise negative. The chest was resonant throughout. There were a few râles in the right apex, which disappeared after coughing.

Blood count revealed: hemoglobin, 95 per cent.; red blood cells, 4,750,000; white blood cells, 7,215; differential count: polymorphonuclear leukocytes, 60 per cent.; small lymphocytes, 35 per cent.; large lymphocytes, 4 per cent.; eosinophiles, 1 per cent.

Fig. 4 (Case 2).—Lesion of the leg.

A roentgenogram of the chest showed a linear thickening on the right side extending from the hilum toward the lateral chest wall, possibly indicating a healed interlobar pleurisy. There was some prominence of the markings extending from the left hilum toward the apex.

Histopathology.—Sections from the skin on the arms and legs were examined. The epidermis was slightly thickened. The papillary processes were flattened. The blood vessels in the corium were dilated, and there was a varying amount of perivascular round cell infiltrate. In the deeper layers of the corium were large dense cell masses lying adjacent to the blood vessels, sweat glands and hair follicles. These masses were sharp in outline, almost encapsulated. There were

few connective tissue fibers in the cell mass. The cells were largely round cells. Toward the center of the infiltrate, however, the predominant type of cell was a large one with an oval pale standing nucleus, i. e., an endothelioid cell. There were occasional multinuclear cells; one was seen closely resembling a Langhans type of giant cell. In some places there were considerable numbers of polymorphonuclear cells. No acid-fast organisms were found.

CASE 3.—*History.*—Miss K. A., aged 18, a telephone operator, had had skin lesions on the fingers for six months. The lesions first appeared on the index finger of the right hand, later in the same position on the left hand. On the little finger of the right hand a lesion had been present for about three weeks. Whenever she had a cold, she coughed rather badly for some time, but she said that the cough always stopped when the cold disappeared. She never had had pleurisy,

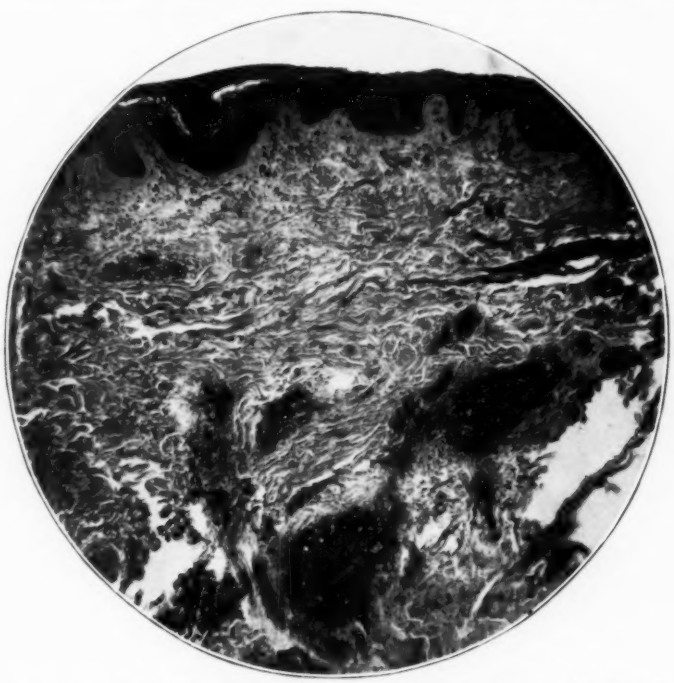

Fig. 5 (Case 2).—Photomicrograph showing character of infiltrate.

and there was no tuberculosis in the family. She had had scarlet fever at the age of 7, influenza in 1918, and twice since then. She had had severe attacks of tonsillitis for several years. The tonsils were removed a month ago. Her menstrual periods were irregular, and she was likely to have dizzy spells accompanied by headaches at the time of her periods.

Physical Examination.—There were purplish infiltrated nodules on the distal phalanges of both index fingers. On the right hand there was a larger oval plaque over the distal interphalangeal joint; on the left the nodules were discrete. On the right little finger were four or five purplish nodules the size of a split pea. On the palmar surface of the little finger there was a solitary lesion. It was a pale purplish spot, which could scarcely be felt as a slight infiltration. This lesion was excised for microscopic examination.

Examination of the chest revealed a slight soreness over the left side, with slight muscular spasm over the region of the lung apex. There were no definite changes in the resonance or breath sounds.

A roentgenogram of the chest showed increased prominence of the lung markings, leading from the hilum to an area in the left upper lobe. In this area there were a few discrete patches of increased density about 0.5 to 1 cm. in diameter.

The blood count revealed: hemoglobin, 75 per cent.; red blood cells, 4,470,000; white blood cells, 4,929; polymorphonuclear leukocytes, 49 per cent.; lymphocytes, 51 per cent.

Histopathology.—A section from the palmar surface of the ball of the little finger of the right hand showed no changes in the epidermis. The papillary processes were not flattened. There was considerable vascular dilatation with a diffuse round cell infiltrate surrounding the vessels. This was especially marked in the interpapillary layers and upper portion of the corium. In some places the infiltrate was composed almost entirely of round cells, but in others there were

Fig. 6 (Case 3).—Lesions of the finger.

groups with oval nuclei and pale staining protoplasm. There were occasional cells with elongated nuclei, apparently new connective tissue cells. In the deeper layers of the corium there were some fairly dense cell masses composed chiefly of round cells. In these groups there were a few endothelioid cells and a fair number of polymorphonuclear leukocytes. The connective tissue network was not much interfered with, but was pushed aside by infiltration. No acid-fast organisms were seen.

SUMMARY

Three cases of the Boeck type of sarcoid are described. Two of these show possible evidence of tuberculosis of the lung. In one there is a healed process which shows only roentgenographically; in the other, there is a possibly more active process.

Sarcoid of Boeck, or benign miliary sarcoid, has long been considered tuberculous. Boeck, on one occasion, found two acid-fast bacilli in a lesion of the mucous membrane of the nose; and once obtained a positive guinea-pig inoculation. In 1912, Darier [1] summarized the sarcoid question, and declared that the Boeck [2] and subcutaneous nodular types were tuberculous. Experimental proof of this has been lacking, or has been so meager as to be doubtful.

In 1921, Kyrle [3] made a study of an instructive case. His patient had an acute generalized form of the disorder. Lesions were studied microscopically at several periods of development. Early, i. e., within

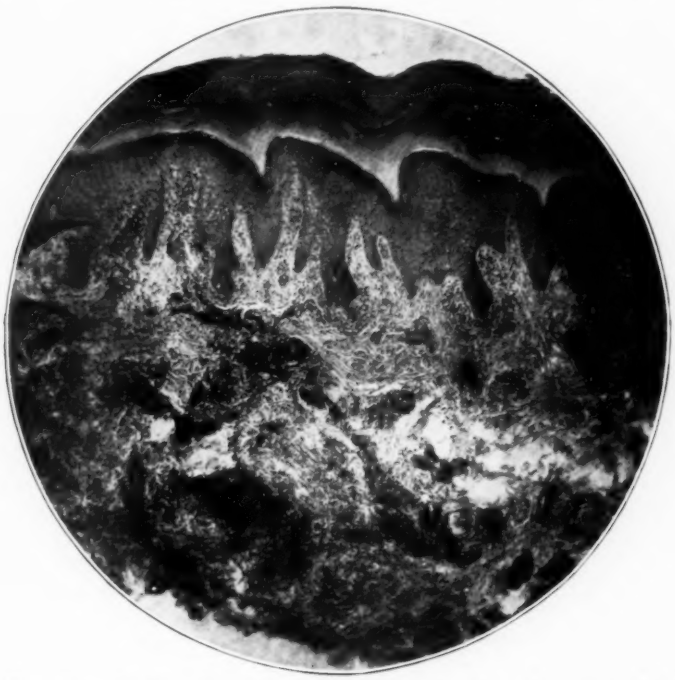

Fig. 7 (Case 3).—Lesion about three weeks old, showing character of infiltrate.

ten days, a simple inflammatory change was present in the tissues. In the infiltrate were numerous acid-fast bacilli. At twenty-one days the infiltrate contained endothelioid elements and became encapsulated. The bacilli had diminished greatly in number. At thirty-six days the typical histologic picture of a Boeck's benign miliary lupoid was present, and no bacilli were demonstrable. A blood culture made during a febrile period was positive for tubercle bacilli. Kyrle concluded that

1. Darier: Monatshft. f. prakt. Dermat. **50**:419, 1912.
2. Boeck: Arch. f. Dermat. u. Syph. **121**:707, 1916.
3. Kyrle: Arch. f. Dermat. u. Syph. **131**:33, 1921.

this disorder was caused by the former presence of tubercle bacilli in the skin, carried there by the blood stream, a shower of organisms setting up an inflammatory reaction in the blood vessels. As the cell reaction changes from simple inflammation to the endothelioid type the bacilli disappear. Lewandowsky [4] and others have shown that the tubercle bacillus has passed its active stage when endothelioid structure is found. Antibodies in the ordinary sense are not present, explaining the absence of tubercle and tubercle formations.

Reute [5] demonstrated acid-fast organisms in a new lesion. His patient died with a generalized tuberculosis.

Martenstern [6] made a comparative study of sarcoid of Boeck and lupus pernio, concluding that both are special forms of reaction to tuberculous infection.

Michalik [7] reported the case of a patient with lesions on the face and concomitant pulmonary tuberculosis from which he died.

Rischin [8] reported an instance in which the lesions were generalized, with involvement of the palpable lymph nodes, enlargement of the spleen and marmorization in the roentgenogram of the lungs. He concluded that the positive factor is an organism closely related to the tubercle bacillus.

In 1921, Finnerud in this country, made a detailed study with combined Boeck and Darier types of lesions, but was unable to show definite tuberculosis. Thus evidence of a tuberculous nature of this disorder has been forthcoming, either by direct demonstration of the organism in the tissues, by animal inoculation or by demonstration of concomitant systemic tuberculosis.

DISCUSSION

Dr. Henry H. Hazen, Washington, D. C.: I think some of us should enter a protest against the view, so widely accepted, that practically all cases of sarcoid are due to tuberculosis in some form. I do not believe at the present time a theory of that type can hold water. It seems to me that it is definitely established that infections in other parts of the body may be the direct cause of sarcoid. As I see the process, it is due in a large majority of cases to organisms growing in the vasa vasorum. I think there are enough cases on record in which the growth is due to streptococci to permit this view.

Another point is that there is a possibility of causal infection in the bronchi; that is, that infectious bronchitis may be the site of the so-called focus of infection. We have talked about the teeth, tonsils, kidneys, gallbladder, the genitourinary organs, etc., but I do not think we can exclude the bronchi entirely in certain of these cases.

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4. Lewandowsky: Arch. f. Dermat. u. Syph. **135**:287, 1921.
5. Reute: Dermat. Ztschr. **37**:129, 1923.
6. Martenstern: Arch. f. Dermat. u. Syph. **147**:70, 1924.
7. Michalik: Dermat. Wchnschr. **78**:445, 1924.
8. Rischin: Arch. f. Dermat. u. Syph. **139**:30, 1922.

DR. OTTO H. FOERSTER, Milwaukee: A discussion involving the etiology of the lupoid of Boeck must give consideration to the results of investigations recently reported by Kyrle and referred to by Dr. Frost, who during two years had an unusual opportunity for study of a case of recurring sarcoid. Animal inoculations and histologic studies showed that acid-fast organisms of tubercle bacillus type were to be found in the lesions. However, they were present only during the initial stage, sometimes a matter of a few days, and Kyrle found that they disappeared rapidly with the development of the epithelioid cell structure, and were always absent in mature lesions. Personally, I believe that the sarcoid group is a special expression of cutaneous tuberculosis.

At this time I should like to call attention to the close similarity which may exist in the clinical as well as in the histologic picture of lepra and sarcoid. I have seen one case which was mistaken for lepra.

DR. OLIVER S. ORMSBY, Chicago: On account of the long continued controversy as to the tuberculous or nontuberculous nature of sarcoid, I think the present paper is valuable in calling our attention to the point Dr. Foerster has emphasized. Practically all the work on sarcoid has been done on well developed cases. This paper emphasizes the fact that when the disease is far enough advanced to be typical of sarcoid clinically and histologically it is too late to find tubercle bacilli in the lesions. A similar condition prevails in syphilis. The spirochetes are found in abundance in the early stages, but later they are scarce or absent altogether. If examinations could be made of very early lesions in sarcoid, their tuberculous nature could probably be proved. The skin is allergic in these cases because of a long existing tuberculosis elsewhere, and when the bacilli reach the skin they are soon destroyed, but the reaction thus initiated later develops the lesions of sarcoid or tuberculid. This principle was well illustrated in the paper of Dr. Williams. There is a condition of allergy in the skin in those cases of fungus infection which immediately destroys the invading microorganisms.

Dr. Frost called attention to the findings in the lungs, and it is thought by several observers that sarcoid is a general infection often beginning in the lungs, and that the majority of patients show lung involvement when roentgen-ray studies are made.

RINGWORM OF THE SCALP IN THE ADULT

REPORT OF A CASE OF KERION DUE TO MICROSPORON AUDOUINI *

HOWARD FOX, M.D.
NEW YORK

The subject of ringworm of the adult scalp was recently discussed in a communication by Dr. Richard W. Fowlkes and myself. After a diligent search of the literature, we were able to find records of only fifty-three cases, including three of our own, in which the clinical diagnosis had been confirmed by microscopic examination or by culture. While the condition is undoubtedly rare, it is possible that it is at times overlooked by failure to utilize the aid of the laboratory. The following report is that of a patient who, like the other three before mentioned, was observed at the Harlem Hospital.

CASE REPORT

E. K., a mulatto, aged 25, a domestic servant, was presented before the New York Dermatological Society in April, 1925, as having kerion of the scalp, the diagnosis being accepted by all of the members present. She gave a history of having suffered from a circinate eruption on the side of the neck two months before. This, she stated, had promptly disappeared under treatment with iodine, a pigmented spot remaining. One week later, the present eruption appeared on the lower part of the occipital region, not extending on the glabrous skin. This consisted of a rounded, elevated tender patch, 4 cm. in diameter. It was largely denuded of hairs, except at the borders, where they were loose and easily removed by slight traction. The lesion presented the appearance of a subsiding pustular ringworm of the kerionic type.

Microscopic examination showed the usual picture of microsporon infection, the affected hairs being sheathed in a mosaic-like mass of small spores. No mycelium was observed.

Cultures were made on Sabouraud's isolation medium, a growth being noted in nine, thirteen and twenty-one days, respectively, on various tubes. A transfer to a Stender dish showed a luxuriant growth on the nineteenth day, measuring 7.5 cm. in diameter. It was grayish white and downy, with a central knob and numerous radiating furrows. A dozen of these furrows were well defined, five of them starting from the central elevation. The borders of the culture showed a fine, narrow, lacelike fringe.

Hanging drop preparations were stained at intervals varying from four to eighty-eight days. All of the characteristic appearances of *Microsporon audouini*, except detached conidia, were present. In one or another of the preparations, wavy mycelial threads with parallel sides, racket shaped mycelium, intercalary chlamydospores, "fuseaux" and pectinate bodies were found. The fuseaux were few in number (some of them being septate, others nonseptate), and they were noted only in the luxuriant cultures.

The diagnosis was kerion of the scalp due to *Microsporon audouini*.

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* From the Department of Dermatology and Syphilology of the Harlem Hospital.

Fig. 1.—Kerion of two months' duration in a mulatto.

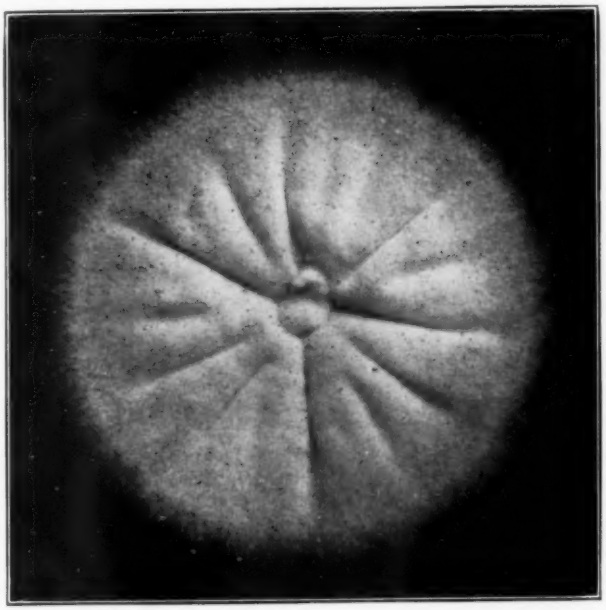


Fig. 2.—Culture of *Microsporon audouini* on Sabouraud's isolation medium.

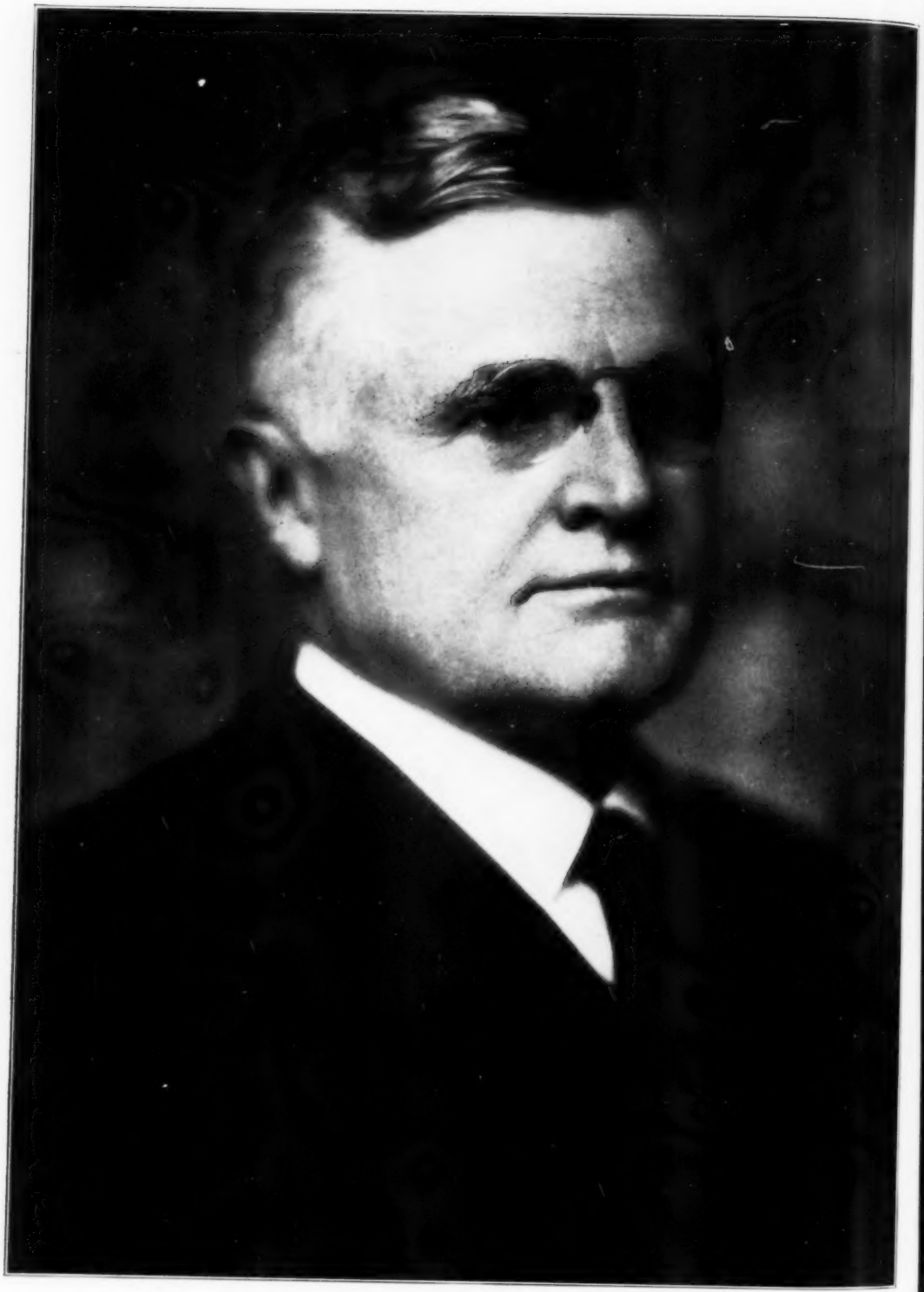
COMMENT

The case is of interest as an additional record of a rare condition, namely, ringworm of the adult scalp. The lesion, although a kerion, was caused by the *Microsporon audouini,* an organism that is not usually pyogenic. Like the three patients I have previously studied, this one also belonged to the negro race.

It may be of interest to add that the culture was made on a Stender dish instead of in the usual flask, no contamination taking place. Numerous other cultures of various species of ringworm have been made in my laboratory on Petri or Stender dishes, without contamination. At least sufficient time has elapsed to allow the cultures to attain full size and to be photographed.

CORRECTION

A transposition of the legends of figures 4 and 5 occurred in the article by Dr. O. M. Gruhzit, "Bismuth Salicylate in Experimental Rabbit Syphilis: A Study of Toxicity, Absorption, Elimination and Spirocheticidal Power," which appeared in the February issue.



GROVER WILLIAM WENDE, M.D.

OBITUARY

GROVER WILLIAM WENDE
1867—1926

Dr. Grover W. Wende was killed by a street car in Buffalo at 7 o'clock on the evening of February 9. He had just left his home to attend a dinner and small meeting of physicians. He was crossing the street while the signals gave him the right of way; they changed while he was crossing; a street car darted suddenly forward, struck him, fractured his skull, and he died on the way to the hospital. It is a tragedy which will cause grief to all American dermatologists.

Grover William Wende was borne, April 6, 1867, in Erie County, New York, the county in which Buffalo is situated. His birth place was a farm near the railroad station of Wende, which is named after his family. He came of an old Erie county family of high standing and influence in the community. The environment of his childhood was of the kind that is probably the best that this country affords for the development of useful citizens. His forebears were prosperous farmers; he was reared on a broad, fertile western New York farm where life had all of its necessities and most of its worthwhile luxuries; but where it also had those influences which stimulate industry, responsibility and resourcefulness. His academic education was obtained in the public schools, and from high school he went to the medical department of the University of Buffalo. There he graduated in medicine in the spring of 1889. The next three years he spent in post-graduate work, chiefly in Europe, and in 1892 he began the practice of dermatology with his brother, Ernest Wende, in Buffalo.

Ernest Wende was interested in dermatology, but did not make it his exclusive study; he was interested more in sanitation, and for many years was the sanitary officer of Buffalo. In that work he attained wide reputation, particularly in the prevention of infantile infections from milk. The milk bottle nipple, for example, now in universal use, which replaced the old nipple and tube of nursing bottles, was Ernest Wende's invention. In evidence of Buffalo's esteem of Ernest Wende the children's hospital of the Buffalo City Hospital which was dedicated three years ago is named the Ernest Wende Hospital. Ernest Wende was one of Buffalo's most useful and influential citizens, and at his premature death his mantle descended on Grover.

But Grover Wende's especial interest was dermatology, and his professional life was largely devoted to its practice. It is not necessary to recite to dermatologists how well he succeeded in this. Certainly no man in America was held in higher esteem for his technical knowledge

of dermatology than Grover Wende. He was not a prolific writer, nor a frequent participant in the discussions at dermatologic meetings; for like so many able men, he was not voluble. But there was hardly any year when some interesting article did not come from his pen, and he attended few dermatologic meetings in which he did not participate actively; and his participations, whether in literature or discussions, were always useful. He was always listened to with respect and usually with profit.

He was an extraordinarily industrious worker, both in dermatology and in general medical and public affairs. He was a skilful dermatologic pathologist and bacteriologist, and he kept alive his interest in these departments of dermatology. He was one of the two or three most skilful dermatologic photographers. His collection of photographs and Fordyce's were always looked forward to with interest at dermatologic meetings. He kept in touch with the world's dermatologic literature with scrupulous care. Such qualities are the manifestations of an alert, vigorous intellect, and, given great clinical opportunities, which Wende had, they meant a clinician of high type. This Wende was. He was a sound practitioner of dermatology on the basis of an exhaustive knowledge of it. He was an extraordinarily acute observer, a diagnostician of the first rank. A cursory examination of his literary contributions to dermatology shows this. Hardly any man in America has recognized and called attention to more of the rarest dermatoses. A report in 1896 on rhinoscleroma originating in the United States, in 1908 on porokeratosis, in the same year on keratosis follicularis resulting in multiple epitheliomas, in 1909 on a nodular eruption terminating in a ringed eruption (granuloma annulare), in 1911 on dermatitis vegetans and in the same year on nodular tuberculosis of the hypoderm—reports of conditions such as these indicates how alert was Wende and how able in diagnosis.

Of course, he developed a large practice. In fact, he had for more than twenty-five years an enormous practice—a practice that would have been overwhelming to most men, but which he carried successfully, partly through his great industry and zeal and partly through his ability in organization. But his private practice was only a part of his labors. He was a teacher from the time he began practice in Buffalo, and for twenty-seven years held the professorship of dermatology in his alma mater. He was a successful teacher, one of the most highly prized and respected by the students, and he was at the same time one of the most influential officers of the University. He was dermatologist to half a dozen of the largest institutions in Buffalo.

His national position in dermatology was as high as his standing in Buffalo. He was one of the outstanding men in the Section on Dermatology and Syphilology of the American Medical Association, of

which he was chairman in 1909-1910, and he held a similar position in the American Dermatological Association, of which he was secretary from 1905 to 1909 and president in 1911-1912. He was a member of the Surgeon General's committee for handling venereal diseases in the army in the United States during the Great War. Every dermatologist in America knew Wende. Most of them had a real affection for him, and all respected him.

But Wende was much more than a leader in a narrow field; his interests were catholic, and his energy and ability made inevitable his participation in the widest variety of affairs. He was a recognized leader of the medical profession of his city and of his state. He had at one time or another been president of practically all of the local societies. He had the rather unusual distinction for a dermatologist of election to the presidency of his state medical society, and for many years he represented New York in the House of Delegates of the American Medical Association. He participated in all movements for betterment in Buffalo. He had the ear and the confidence of the people of influence of his city, and he was called on for help and often for leadership in its movements for civic betterment. He was one of Buffalo's most useful and influential citizens and was so recognized by the community. This fact was manifest by formal expressions of sorrow at his death by the hospitals, by the University, by the city council and business organizations, by numerous philanthropic and other public institutions of Buffalo and by expressions of personal sorrow from innumerable persons.

Wende was a sturdy, vigorous, able man. He was a real personality of the best sort. He led a fine life. He bore success and afflictions—for he had afflictions—with humility and courage. His death is a loss to his people and to American medicine.

The following are the publications of Dr. Wende:

A Case of Rhinoscleroma Originating in the United States, J. Cutan. & Genito-Urin. Dis. **14**:90-92 (March) 1896.

Idem: Buffalo M. J. **35**:642-647 (March) 1896.

An Interesting Case of Tinea Favosa Epidermidis, J. Cutan. & Genito-Urin. Dis. **14**:383-391 (Oct.) 1896.

Mycosis Fungoides, with a Report of Case, Buffalo M. J. **36**:832-836 (June) 1897.

Report of a Case of Multiple Idiopathic Pigmented Sarcoma, Buffalo M. J. **37**:818-822 (June) 1898.

Idem: J. Cutan. & Genito-Urin. Dis. **16**:205-212 (May) 1898.

Porokeratosis, with Report of Case, J. Cutan. & Genito-Urin. Dis. **16**: 505-514 (Nov.) 1898.

The Use of Electricity in Acne Vulgaris and Acne Rosacea, Buffalo M. J. **38**:254-260 (Nov.) 1898.

Acute Circumscribed Edema Associated with Hemoglobinuria, J. Cutan. & Genito-Urin. Dis. **17**:178-182 (April) 1899.

(With H. D. Pease.) A Case of Dermatitis Herpetiformis Illustrating an Unusual Pustular Variety of the Disease, J. Cutan. & Genito-Urin. Dis. **19**: 171-180 (April) 1901.

Dermatitis Vesico-Bullosa et Gangrenosa Mutilans: Report of Two Cases Having a Hysterio-Traumatic Origin, J. Cutan. & Genito-Urin. Dis. **18**:548-562 (Dec.) 1900.

Nodular Tuberculosis of the Hypoderm, J. Cutan. Dis. **29**:1-7 (Jan.) 1911.

Pellagra in Buffalo, Buffalo M. J. **66**:523-531 (May) 1911.

(With H. K. DeGroat.) Dermatitis Vegetans in Infants, J. Cutan. Dis. **29**:473-479 (Sept.) 1911.

A Brief Historical Review of Dermatological Journalism in the United States, Presidental Address, American Dermatological Association, St. Louis, May, 1912, J. Cutan. Dis. **30**:389-396 (July) 1912.

President's Address to the Medical Society of the State of New York, New York State J. Med. **13**:175-181 (May) 1915.

Pellagra as it Occurs in Buffalo and Vicinity, Buffalo M. J. **73**:431-443 (July) 1918.

Keratolysis Exfoliativa, J. Cutan. Dis. **37**:169-173 (March) 1919.

(With H. H. Backus.) A Hitherto Undescribed Generalized Pigmentation of the Skin Appearing in Infancy in Brother and Sister, J. Cutan. Dis. **37**: 685-701 (Oct.) 1919.

(With Katherine R. Collins.) A Contribution to the Study of Epidermophyton Inguinale, Arch. Dermat. & Syph. **3**:1-13 (Jan.) 1921.

Pemphigus: Experience with the Davis Treatment, Arch. Dermat. & Syph. **11**:782-788 (June) 1925.

(With H. K. DeGroat.) Vegetating Dermatitis Developing During the Course of Infantile Eczema, J. Cutan. & Genito-Urin. Dis. **20**:58-67 (Feb.) 1902.

Sarcomatosis Cutis, J. Cutan. Dis. **21**:307-315 (July) 1903.

A case of Epidermolysis Bullosa Hereditaria, Associated with Congenital Alopecia, and Atrophy of the Finger Ends, J. Cutan. Dis. **22**:14-17 (Jan.) 1904.

(With C. A. Bentz.) Rhinophyma: a Pathological Analysis of Five Separate Tumors Occurring in the Same Patient, J. Cutan. Dis. **22**:447-460 (Oct.) 1904.

Alopecia Areata as Associated with Nail Changes, J. Cutan. Dis. **23**:517-521 (Dec.) 1905.

Erythema Perstans, with Report of Two Cases Involving Circinate Lesions, J. Cutan. Dis. **24**:241-251 (June) 1906.

(With C. A. Bentz.) Infectious Dermatitis Gangrenosa, J. Cutan. Dis. **24**:445-454 (Oct.) 1906.

Erythema Figuratum Perstans, J. A. M. A. **51**:1936-1939 (Dec. 5) 1908.

Keratosis Follicularis Resulting in Multiple Epithelioma: Report of a Case, J. Cutan. Dis. **26**:531-551 (Dec.) 1908.

(With F. C. Busch.) Localized Facial Sweating Following Certain Olfactory Stimuli, J. A. M. A. **53**:207 (July 17) 1909.

A Nodular Granuloma Annulare Terminating in a Ring Eruption, J. Cutan. Dis. **27**:388-393 (Sept.) 1909.

Dermatology as a Specialty and Its Relation to Internal Medicine, Chairman's Address Before the Section on Dermatology of the American Medical Association, Sixty-First Annual Session, St. Louis, June, 1910, J. A. M. A. **55**:1-3 (July 2) 1910.

Mutual Relations of Physicians and Layman, President's Address Delivered at the Eighty-Ninth Annual Meeting of the Medical Society of the County of Erie, Buffalo M. J. **66**:349-357 (Feb.) 1911.

W. A. P.

News and Comment

LOCAL DERMATOLOGICAL SOCIETIES

Manhattan Dermatological Society
David L. Satenstein, Sec., 166 West 58th St., New York City.
Max Scheer, Chairman, 3 E. 53rd St., New York City.
Chicago Dermatological Society
Erwin P. Zeisler, Pres., 30 North Michigan Ave., Chicago.
New York Dermatological Society
A. Schuyler Clark, Pres., 614 Park Ave., New York City.
New England Dermatological Society
Wesley T. Lee, Sec., 220 Clarendon St., Boston.
New York Academy of Medicine, Section on Dermatology and Syphilis
Oscar L. Levin, Sec., 5 E. 53d Street, New York City.
Fred Wise, Chairman, 24 W. 59th Street, New York City.
Minnesota Dermatological Society
D. D. Turnacliff, Sec., Yeates Bldg., Minneapolis.
St. Louis Dermatological Society
Norman Tobias, Sec., 516 Metropolitan Bldg., St. Louis.
Pittsburgh Dermatological Society
H. G. Wertheimer, Pres., Westinghouse Bldg., Pittsburgh.
Lester Hollander, Sec., Jenkins Arcade, Pittsburgh.
Detroit Dermatological Society
Howard J. Parkhurst, Pres., Toledo Medical Bldg., 312 Michigan St., Toledo, Ohio.
Philadelphia Dermatological Society
E. F. Corson, Pres., 1927 Spruce St., Philadelphia.
Patricia Hart-Drant, Sec., 2026 Locust St., Philadelphia.
Baltimore Section of Dermatology
Lloyd W. Ketron, Sec., 1107 St. Paul St., Baltimore.
Brooklyn Dermatological Society
E. Almore Gauvain, Sec., 47 Halsey St., Brooklyn.
Cincinnati Dermatological Society
August Ravogli, Pres., Doctors' Bldg., Cincinnati.
H. Jerry Lavender, Sec., 715 Provident Bank Bldg., Cincinnati.

FOREIGN DERMATOLOGICAL SOCIETIES

Italian Dermatological Society
Danish Dermatological Society.
La Societe Francaise de Dermatologie et de Syphiligraphie
Section on Dermatology, Royal Society of Medicine
British Association of Dermatology and Syphilis
Berlin Dermatological Society
Cologne Dermatological Society
German Dermatological Society in Czechoslovakia Republic
Vienna Dermatological Society
Munich Dermatological Society

Abstracts from Current Literature

THE CUTANEOUS NEUROSES, WITH PARTICULAR REFERENCE TO PSYCHOTHERAPY. J. V. KLAUDER, J. A. M. A. **85**:1683 (Nov. 28) 1925.

Klauder brings forward considerable evidence to show the importance of psychogenic factors in the development and treatment of certain skin diseases. This subject is not as well emphasized in dermatology as it should be. Among the diseases discussed are pruritus and urticaria, both of which, the author contends, may have a purely psychotic basis. Case reports detailing observations along these lines are recorded. In these instances psychotherapeutic treatment is often successful. Suggestion and autosuggestion, as well as psychic fixation, which underly the cutaneous neuroses must be dispelled. The better understood cutaneous neuroses, such as acarophobia, dermatothlasia, and neurotic excoriations are also discussed. A case of the rare bromhidrosiphobia is reported.

The gist of Klauder's paper is that unless the dermatologist is on the alert for psychic factors in the production of cutaneous diseases, he is likely to overlook a most valuable and necessary therapeutic measure.

THE PROBLEM OF MALIGNANCY. A. E. BARCLAY, J. A. M. A. **85**:1710 (Nov. 28) 1925.

Barclay believes that the behavior of cancer to radiation and other measures gives a clue to the cause of malignancy. He has encountered cases that have responded to what appears to be wholly inadequate treatment, an experience that has been duplicated by many others. On the other hand, many malignancies are radio-insensitive. Reasoning from these facts, he has reached the surmize that the cause of cancer must reside in some subtle biochemical change in the blood or be carried by the blood acting on certain types of cells, those cells being particularly susceptible that have suffered from some mechanical or inflammatory source of irritation, or which in the natural course are undergoing degenerative changes at the end of their life of functional activity.

THE ULTRAVIOLET RAY AS A PROPHYLACTIC AGAINST RADIODERMATITIS. G. M. MACKEE and G. C. ANDREWS, J. A. M. A. **85**:1715 (Nov. 28) 1925.

MacKee and Andrews report experimental evidence distinctly unfavorable to the contention of Sampson and others that the ultraviolet ray inhibits dermal effects of excessive roentgen irradiation. Likewise, on clinical as well as on experimental grounds, they dispose of recorded cases in which there was an apparently beneficial result from ultraviolet treatment after excessive roentgenization.

In their experiments they found that ultraviolet light did not influence the depilatory effects of the roentgen ray, and on normal skin in some instances its only effect was to enhance radiosensitivity. They conclude, therefore, that the ultraviolet ray regardless of how it is employed, is of no practical value as a prophylactic against acute or chronic radiodermatitis.

SOME UNRECOGNIZED DANGERS IN THE USE AND HANDLING OF RADIOACTIVE SUBSTANCES, WITH ESPECIAL REFERENCE TO THE STORAGE OF RADIUM AND MESOTHORIUM IN THE RETICULO-ENDOTHELIAL SYSTEM. H. S. MARTLAND, P. CONLON and J. P. KNEF, J. A. M. A. **85**:1769 (Dec. 5) 1925.

In view of the recent report of Hoffmann on "Radium (Mesothorium) Necrosis (J. A. M. A. **85**:961 [Sept. 26] 1925), the authors record observations of their own on the danger of the accumulation of radioactive substances in the body.

They have made electrometer tests in three patients. In one fatal case tests were made before and after death; the second case was a severe one, and the third case presented an apparently healthy condition. In these patients electrometer tests were positive for radioactive emanation.

This is probably the first time that radioactivity has been demonstrated in the human body during life by means of electrometers.

As a result of these investigations the authors conclude that radium introduced in the body in minute amounts is deposited in the reticulo-endothelial system, where it constantly bombards the hematopoietic centers, resulting in their final destruction. The end result is pernicious anemia. They warn against the therapeutic use of long lived radioactive elements if they are employed in such a way (intravenous injection, radioactive waters, etc.) that they may be deposited in the body indefinitely. The fatalities that have resulted in the luminous dial industry are undoubtedly due to the deposition of radium and mesothorium in the tissues, these elements having been swallowed by the operatives who were in the habit of pointing the brushes with their lips.

SODIUM THIOSULPHATE IN THE TREATMENT OF METALLIC INTOXICATION: REPORT OF CASES. H. A. KUHN and H. H. REESE, J. A. M. A. **85**:1804 (Dec. 25) 1925.

The authors report favorable results from this therapy in ten cases of neo-arsphenamine dermatitis, in several cases of jaundice from neo-arsphenamine and in one case each of polyneuritis, acute mercurial and acute arsenical poisoning. Determinations for arsenic showed an increased excretion after the administration of sodium thiosulphate. Saline solution is recomended as a solvent when sodium thiosulphate is given by mouth.

SODIUM THIOSULPHATE IN MERCURY POISONING: AN EXPERIMENTAL STUDY. C. C. HASKELL, W. C. HENDERSON and J. R. HAMILTON, J. A. M. A. **85**:1808 (Dec. 5) 1925.

In reviewing clinical reports on the use of sodium thiosulphate in mercurial poisoning, the authors noted a disagreement as to its value. Besides this, as mercury acts as an emetic, it cannot be determined clinically whether or not poisonous doses have been absorbed. In the authors' experiments on dogs, mercury was given intravenously followed by sodium thiosulphate. Control animals received no antidote. Lethal doses of mercury killed the test and control animals in the same time, irrespective of the administration of sodium thiosulphate, and it is concluded, therefore that sodium thiosulphate was entirely ineffective, either to save the animals or even to delay death.

HERPES ZOSTER SIMULATING NEPHROLITHIASIS. W. B. BLANTON, J. A. M. A. **85**:1811 (Dec. 5) 1925.

Because of the severe pain in Blanton's case, kidney stone was first suspected. The diagnosis became clear, however, on the appearance of a typical herpetic eruption.

PELLAGRA ASSOCIATED WITH ANNULAR CARCINOMA OF THE TERMINAL PORTION OF THE ILEUM. F. R. NUZUM, J. A. M. A. **85**:1861 (Dec. 12) 1925.

Two cases of adenocarcinoma of the ileum in which pellagra developed apparently as the result of interference with nutrition are recorded. The suggestion of Bender (J. A. M. A. **84**:1250 [April 25] 1925) that the disturbances of nutrition as a result of the mechanical obstruction caused by the carcinoma gave rise to pellagra, seems applicable in these two instances. These added examples of pellagra developing in conditions of disturbed nutrition from mechanical obstruction of the small bowel give additional weight to the theory of the dietetic origin of the disease.

FURUNCLE OF THE NOSE: REPORT OF A CASE RESULTING IN SEPTICEMIA TREATED SUCCESSFULLY BY INJECTIONS OF MERCUROCHROME. T. J. HARRIS, J. A. M. A. **85**:1967 (Dec. 19) 1925.

A case of furuncle in the nose associated with severe septicemia is reported. In these cases the outcome has been almost uniformly fatal. The present case appeared hopeless until mercurochrome-220 soluble was given intravenously, after which a slow but steady improvement occurred. However, two transfusions had been given before the mercurochrome injections and for this reason an unqualified statement that the favorable outcome was due to mercurochrome alone cannot be given. The author, however, strongly recommends mercurochrome injections in similar cases.

RECKLINGHAUSEN'S DISEASE WITHOUT TUMOR FORMATION: INCOMPLETE OR ABORTIVE FORMS OF THE DISEASE. F. WISE and J. J. ELLER, J. A. M. A. **86**:86 (Jan. 9) 1926.

Wise and Eller give a survey of the literature of those cases of the disease which presented incomplete types. The family history in these cases show usually that one parent has presented well developed Recklinghausen's disease. Only those cases that show nothing more than pigmentary spots are considered by the authors as incomplete forms.

In this connection, a family, consisting of the father and two sons, are presented. The father, aged 50, had a well marked form of the disease; one son, aged 11, pigmentary deposits with one tumor, while the youngest son, aged 9, showed only café-au-lait spots. It is allowable to assume that the incomplete forms will eventually develop more outspoken evidences of the disease.

The terms neurofibromatosis cutis or fibroma molluscum multiplex are applicable only to those cases in which tumors form a part of the clinical picture.

ALLERGY AND ANAPHYLAXIS IN DERMATOLOGY. O. S. ORMSBY, Southern M. J. **18**:881 (Dec.) 1925.

In this paper, Ormsby has given a thorough review of the subject. The term allergy should be used to cover all forms of changed reactivity, including hypersensitiveness. Anaphylaxis is a form of allergy induced by true antigen-antibody reaction. Many substances, such as peptone, histamine, etc., produce symptoms resembling anaphylaxis, but until such reactions are better worked out, they should be designated as anaphylactoid. The effect of vegetable toxins in rhus dermatitis is still an open question. Ormsby emphasizes the limitations of cutaneous food tests and reserves them for selected cases. However, allergy to food is fully demonstrated. The new concept of physical allergy introduced by Duke is important and demands further investigation.

THE FUTURE OF DERMATOLOGY. I. L. MCGLASSON, Southern M. J. **18**:891 (Dec.) 1925.

McGlasson, in his Chairman's address before the Section of Dermatology of the Southern Medical Association, lays particular stress on the encroachment on the field of the dermatologist by quacks of various kinds. The most pernicious of these is the one who uses the roentgen ray for the treatment of hypertrichosis.

ULTRA-VIOLET RAYS IN DERMATOLOGY. W. P. CASSEL, Brit. M. J. **2**:1218 (Dec. 26) 1925.

Cassel thinks that the chief therapeutic value of ultraviolet rays lies in their stimulating and bacteriologic effects. He finds this treatment useful in chronic inflammatory processes which need stimulating. For the stimulation of sluggish ulcers, he finds them beneficial. He particularly recommends their usefulness in certain infectious conditions. He recommends them highly in impetigo, and states that he cures sycosis with them. In furunculosis they abort early lesions and in furuncles which have broken down involution is much more rapid. He has found them particularly useful in multiple subacute abscesses of infants. In septic wounds they dry up discharge and cause more rapid healing than any other agent. In carbuncle heavy doses cause the disappearance of discharge and pain. He further recommends them in miscellaneous dermatoses—alopecia areata, psoriasis, seborrhea, acne vulgaris and chilblains. On the whole, his attitude is optimistic. MICHAEL HOUSTON, Texas.

DERMATOLOGIC LESSONS FROM THE WAR OF 1914-1918. GEORGES THIBIERGE, Ann. de dermat. et syph. **6**:481 (Aug.-Sept.), 641 (Nov.) and 705 (Dec.) 1925.

After an extensive review of the literature, the author concludes that the long duration of the war caused the parasitic skin diseases to be unusually frequent and intense, and often complicated by local infections. More peculiar to this war were the occupational dermatoses in munition workers, and the eruptions caused by the use of impure petrolatum when pure petrolatum could not be obtained. A peculiar melanoderma of the exposed surfaces, especially of the face, was reported, particularly in Germany and Austria; its cause was not definitely determined, but photosensitization apparently played a part. Many self-inflicted lesions, of various types, were produced by malingerers, and some were novel. Numerous facts were brought out concerning the nature and treatment of some of the common skin diseases.

REPLACEMENT OF ALL SUGAR BY HONEY IN DERMATOPHYTIC CULTURE MEDIA. R. SABOURAUD, Ann. de dermat. et syph. **6**:515 (Aug.-Sept.) 1925.

Using honey, Sabouraud obtained cultures similar to those growing on the old mediums, and he desires to learn whether similar good results are to be had with the honey obtained in other parts of the world. The formula is as follows: water, 100 parts; peptone, 2; honey, 8, and agar, 2.

COMBINED ACTION OF PHOTOTHERAPY AND CHEMOTHERAPY IN SYPHILIS. P. RAVAUT, BASCH and LAMBLING, Ann. de dermat. et syph. **6**:518 (Aug.-Sept.) 1925.

In nine cases in various stages of the infection, widespread and repeated exposures to the quartz lamp were given, with and without the oral administration of photodynamic substances, such as eosin or methylene blue; anti-

syphilitic drugs were administered simultaneously. The response of the infection to internal treatment was not appreciably altered by this procedure, but it was considered to be of possible value in improving the general health of the patient.

INITIAL MYCOFUNGOMA: MYCOSIS FUNGOIDES STARTING WITH A SOLITARY TUMOR. J. CABRE ICLARAMUNT, Ann. de dermat. et syph. **6**:532 (Aug.-Sept.) 1925.

A case is reported in which the affection began with a solitary tumor. When it begins thus, the author considers the initial tumor as comparable with the syphilitic chancre: the portal of entry for the infectious agent. He feels that by its early and complete excision, the progress of the disease perhaps may be stopped.

AN INCONTESTABLE CASE OF SYPHILITIC REINFECTION. PETGES and LEONARD, Ann. de dermat. et syph. **6**:542 (Aug.-Sept.) 1925.

In 1920, a young man presented a penile ulceration, with generalized lymphadenopathy and a roseola; the microscopic and serologic findings at that time are not reported. Following injections of neo-arsphenamine the lesions disappeared, and the Wassermann reaction was found to be constantly negative. In January, 1925, a new ulceration appeared, not at the site of the former lesion, and there was lymph node enlargement, with positive serology and dark-field findings. The consort was found to have a syphilitic eruption.

ICHTHYOSIS AND CONGENITAL SYPHILIS. MARCEL SENDRAIL, Ann. de dermat. et syph. **6**:544 (Aug.-Sept.) 1925.

Citing nine cases from the literature, the author describes a case in which the ichthyosis is perhaps to be attributed to altered cutaneous development due to syphilitic infection *in utero*.

TREATMENT OF CHANCROIDS AND THEIR COMPLICATIONS BY THE VACCINE OF NICOLLE. W. DUBREUILH and P. BROUSTET, Ann. de dermat. et syph. **6**:577 (Oct.) 1925.

The authors outline fourteen cases in which this therapy was used, and conclude that it is indicated only in cases in which there are stubborn or inaccessible lesions or extensive sloughing, to be employed in conjunction with local treatment. Considerable reactions follow the injections.

TINEA OF THE SCALP IN ADULTS. VITOLD BORKOWSKI and FRANC KRZYSZTALOWICZ, Ann. de dermat. et syph. **6**:597 (Oct.) 1925.

Four cases are reported by the authors, three occurring in women. In one, a probable *Trichophyton neoendothrix* was found; in the second case, *Trichophyton neoendothrix-plicatile;* in the third, *Trichophyton faviforme-ochraceum;* and in the fourth, *Trichophyton violaceum*. The glabrous skin was not affected.

THE COMBINED ACTION OF ANAPHYLAXIS AND BINDING ACTIVITY IN DERMATOLOGY. B. DUJARDIN and N. DECAMPS, Ann. de dermat. et syph. **6**:725 (Dec.) 1925.

If the antigen is bound, urticaria results, being slight, or cryptic, if there is but little antigen in the blood stream, and intense, with acute edema, if the

amount of antigen be large. If the antibody is at fault, as is especially the case in prolonged anaphylactic states, there may be nodule formation, or eczematides and eczema.

THE SEMEIOLOGIC VALUE OF THE MAMILLARY EMINENCE AND THE TUBERCLE OF CARABELLI AS SIGNS OF CONGENITAL SYPHILIS. EMILIO JANE, Ann. de dermat. et syph. **6**:734 (Dec.) 1925.

This dental deformity is of diagnostic value, having been found to be accompanied by a positive Wassermann reaction in 60 per cent of a series of twenty-nine cases. Nine of these cases, with negative or doubtful serologic findings, presented other stigmas of congenital syphilis.

HYPERTRICHOSIS OF THE UPPER LIP IN WOMEN CONSIDERED AS A STIGMA OF CONGENITAL SYPHILIS. N. DRACOULIDES, Ann. de dermat. et syph. **6**:745 (Dec.) 1925.

Attributing this condition to endocrinous changes, especially ovarian insufficiency, possibly of syphilitic origin, the author reports having found other signs of congenital syphilis in 22 per cent of a series of fifty patients with this trouble. In a series of known congenitally syphilitic cases, the condition was found in 35 per cent.

FREQUENCY OF PSYCHOPATHIAS RESEMBLING GENERAL PARESIS IN PERSONS WITH TABES. GOUGEROT, JEAN MEYER and ROBERT WEILL-SPIRE, Bull. Soc. franç. de dermat. et syph. **32**:317, 1925.

The authors report two illustrative cases presenting this condition, which is said to be fairly frequent, and to respond well to antisyphilitic treatment.

ESTHIOMENE OF THE VULVA. MILIAN and LAFOURCADE, Bull. Soc. franç. de dermat. et syph. **32**:321, 1925.

The authors report a case of extensive involvement, of several months' duration, with vegetations and elephantiasis, in a patient with tuberculous cervical lymphadenitis. Histologic studies of the vulvar lesions suggested atypical tuberculosis, but this impression had yet to be confirmed by animal inoculation.

ABSENCE OF THE XYPHOID PROCESS AS A SIGN OF CONGENITAL SYPHILIS. LOUIS QUEYRAT, Bull. Soc. franç. de dermat. et syph. **32**:323, 1925.

In the opinion of Queyrat, the absence of the xyphoid process in a given case should lead us to look for congenital syphilitic infection. He cites illustrative cases.

CHRONIC PRURITUS WITH A LICHENOID ERUPTION (PITYRIASIS RUBRA PILARIS?). HUDELO, CAILLIAU and LEJARD, Bull. Soc. franç. de dermat. et syph. **32**:329, 1925.

The eruption, in a man aged 38, was of three years' duration, having been preceded by pruritus of several weeks' standing. Its distribution was generalized, and the lesions on the dorsa of the fingers were suggestive of pityriasis rubra pilaris; histologic study seemed to confirm this. Leukocytosis and eosinophilia were present.

LARGE SYPHILITIC OSTEOMA OF THE SKULL. ANDRE LÉRI and MACHTOU, Bull. Soc. franç. de dermat. et syph. **32**:331, 1925.

The entire right parietal region was involved.

THE SEROLOGIC DIAGNOSIS OF SYPHILIS: THE FLOCULATION TEST OF MEINICKE WITH UNHEATED SERUM. RUBINSTEIN and L. SUAREZ, Bull. Soc. franç. de dermat. et syph. **32**:334, 1925.

This test was applied to 490 serums, and the results after twenty-four hours agreed with the Wassermann findings in 90 per cent of the cases. Falsely positive results may be found, especially in tuberculous subjects.

VINCENT'S ANGINA AND BISMUTH THERAPY. E. FRANCOIS-DAINVILLE and A. CLERCY, Bull. Soc. franç. de dermat. et syph. **32**:338, 1925.

The angina appeared in a woman who had been receiving injections of a bismuth compound, and who showed signs of bismuth stomatitis. The authors feel that secondary infection of the erosions due to bismuth may explain the occurrence of Vincent's angina in such cases.

A CASE OF SYPHILITIC MASTITIS. C. FOUQUET and MACHTOU, Bull. Soc. franç. de dermat. et syph. **32**:340, 1925.

In a young woman, tender nodules appeared in both breasts during the secondary period of the infection; they disappeared under antisyphilitic treatment.

EXAMINATION OF THE CUTANEOUS CIRCULATION IN ALOPECIA AREATA AND LEUKODERMA. LEVY-FRANCKEL, GUILLAUME and JUSTER, Bull. Soc. franç. de dermat. et syph. **32**:342, 1925.

By capillariscopic studies in both conditions, absence of capillaries was noted in the affected areas, and signs of vasoconstriction in the extremities were frequent. In the spots of alopecia areata, edema was present, and when regrowth was occurring, some capillaries were seen.

ASEPTIC DEEP ABSCESS FOLLOWING INJECTIONS OF BISMUTH HYDROXID. L. LORTAT-JACOB and J. ROBERTI, Bull. Soc. franç. de dermat. et syph. **32**:345, 1925.

The tumors resembled those produced by injections of gray oil. Three cases are reported, an oily suspension of the drug having been administered in each.

ERYTHEMAS OF THE NINTH DAY, DUE TO THE ORAL ADMINISTRATION OF TREPARSOL. MILIAN and LAFOURCADE, Bull. Soc. franç. de dermat. et syph. **32**:351, 1925.

Two cases are reported in which morbilliform generalized eruptions, with lymph node enlargement, appeared nine days after the administration of the drug. When the drug was re-administered within a few days, the eruption was reproduced, but if it was withheld for two or three weeks, no repetition of the eruption followed the resumption of treatment.

ACRIDINE SUNBURN: ITS PREVENTION BY RESORCIN. JAUSION and MARCERON, Bull. Soc. franç. de dermat. et syph. **32**:358, 1925.

Temporary photosensitization was found to follow intravenous injections of yellow acridine in a number of cases observed by the authors. The injestion of resorcin seemed to prevent this.

SCABIES AND ERYTHRASMA. P. NOEL, Bull. Soc. franç. de dermat. et syph. **32**:362, 1925.

Lesions produced by *Microsporon minutissimum* in the axillary and intercrural regions furnished a background against which the burrows of the itch mite were easily visible, and unusually numerous.

A CASE OF ANTHRAX. LORTAT-JACOB and SCHMITT, Bull. Soc. franç. de dermat. et syph. **32**:363, 1925.

A case of mild type is reported, the lesion on the shoulder, having been acquired in the fields. Recovery was rapid under intramuscular injections of anti-anthrax serum.

CYSTIC LYMPHANGIOMA OF THE CHEEK, WITH MALIGNANT DEGENERATION. A. G. WEISS, Bull. Soc. franç. de dermat. et syph. **32**:R.S.158, 1925.

In a child, a lymphangioma of the cheek, in the region of the first branchial cleft, had undergone degeneration which was considered sarcomatous. Prior to the malignant development, roentgen-ray therapy had been used, and there had been an infection of the tumor, necessitating an incision.

SPOROTRICHOID GUMMATOUS AND VERRUCOUS TUBERCULOSIS. GLASSER, ROBERT and SLOIMOVICI, Bull. Soc. franç. de dermat. et syph. **32**:R.S.169, 1925.

In a woman, aged 65, the process was of seven months' duration, and had involved the left forearm, the right scapular region and one ankle. There were deep-seated nodules and sinuses. The bacillus of tuberculosis was recovered following animal inoculation.

VAGABONDS' DISEASE AND GENERALIZED MELANODERMA. PAUTRIER and G. LEVY, Bull. Soc. franç. de dermat. et syph. **32**:R.S.172, 1925.

In a man, the condition was at least of several months' duration, with generalized melanoderma, involving also the buccal mucosa. The number of melanoblasts was found to be increased, and the activity of the sympathetic nervous system was augmented. There were general asthenia and arterial hypotension resembling that of the Addisonian syndrome, and suggestive of a toxic origin of the melanoderma, due perhaps to a product of the pediculi, or to poor hygienic conditions.

HYPERTROPHIC LICHEN CORNEUS. PAUTRIER, Bull. Soc. franç. de dermat. et syph. **32**:R.S.175, 1925.

Lesions involving both legs and developing following an eczema of both legs and without lichen planus, had been present for a year, in a man, aged 66. Histologic studies excluded the possibility of an underlying lichen planus.

MELANOSES, MELANOMAS AND MELANOSARCOMAS. J. DARIER, Bull. Soc. franç. de dermat. et syph. **32**:R.N.23, 1925.

The cutaneous melanoses fall into two classes: those of ectodermic origin, which are by far the more numerous and important, and those of mesenchymatous origin, arising from so-called Mongolian spots and blue nevi, which are the only true melanosarcomas.

ALIMENTARY URTICARIA: ANAPHYLAXIS TO WHITE WINE. SPILLMANN and DE LAVERGNE, Bull. Soc. franç. de dermat. et syph. **32**:R.N.27, 1925.

A young man was found to be sensitized to white wine. Investigation showed this to be due to the presence of small amounts of albumin which are often added to clarify these wines.

A CASE OF CHLORID ACNE. J. NICOLAS and M. PILLON, Bull. Soc. franç. de dermat. et syph. **32**:R.N.33, 1925.

In a young Arab, working with hydrochloric acid, the face, trunk and forearms were extensively affected, with many comedones, apparently produced by direct contact of the substance with the skin.

REDUCTION OF INDIGO-CARMIN BY BLOOD SERUM. P. GASTOU and P. LEMAY, Bull. Soc. franç. de dermat. et syph. **32**:R.N.42, 1925.

The degree of reduction of syphilitic and nonsyphilitic serums was measured colorimetrically. There was found to be no apparent relation between the degree of reduction and syphilis.

A STUDY OF THE TROPHOMELANIC SYSTEM IN FOUR CASES OF BULLOUS AFFECTIONS (PEMPHIGUS). LOUSTE and CAILLAU, Bull. Soc. franç. de dermat. et syph. **32**:R.N.43, 1925.

By histologic studies of different lesions, it was found that the formation of pigment was reduced or even abolished, which would indicate considerable alterations in the chemical interchange between the derma and the epidermis.

INITIAL HYPERKERATOTIC CUTANEOUS LYMPHOGRANULOMATOSIS. NANTA and CHATELLIER, Bull. Soc. franç. de dermat. et syph. **32**:R.N.53, 1925.

In one case, a thickened lesion had appeared on the dorsum of the tongue three years before the lymph node involvement. The histologic findings in the lesion were not conclusive, but study of a lymph node established the diagnosis. In a second case, a large tumor on the dorsum of the hand had appeared two years before visible lymph node changes. Biopsy specimens from the tumor and a lymph node showed the picture of lymphogranulomatosis.

UNILATERAL SYPHILITIC HEREDITY. P. GASTINEL, Bull. Soc. franç. de dermat. et syph. **32**:R.N.55, 1925.

In two cousins, whose grandfather was syphilitic, there was hydrocephalus, Little's disease and a positive Wassermann reaction.

SCLERODERMA AND SUBCUTANEOUS CALCAREOUS GRANULATIONS. THIBIERGE, L. SPILLMANN and WEISSENBACH, Bull. Soc. franç. de dermat. et syph. **32**:R.N.58, 1925.

In a girl, aged 14 years, the condition had appeared following an attack of diphtheria in 1916. It had progressed rapidly, and the arms and legs were extensively involved. Some of the nodules had broken through the overlying skin, as is shown by a photograph.

DERMATOSES AND GLANDULAR THERAPY. SPILLMANN and CARILLON, Bull. Soc. franç. de dermat. et syph. **32**:R.N.63, 1925.

In nine of ten patients with psoriasis, either definite endocrinous disorders or disturbances of the vagosympathetic equilibrium were found. In the former,

the institution of the proper glandular therapy was followed by involution of the eruption; in the latter, thymus was administered, and benefit followed.

PEMPHIGUS. SPILLMANN and J. WATRIN, Bull. Soc. franç. de dermat. et syph. **32**:R.N.65, 1925.

In a case of severe chronic pemphigus the authors administered ergotin and epinephrine by mouth, and Witte's peptone and calcium chloride intravenously. The outcome was encouraging.

PARKHURST, Toledo, Ohio.

PRIMARY FIBROSARCOMA OF THE SKIN IN A BOY 5 YEARS OLD. G. BERTACCINI, Arch. ital. dermat. e sifil. **1**:1 (July) 1925.

The patient suffered from a hard, pink, nodular lesion on the right knee over the rotula, which had been growing slowly for two years. No other lesions and no enlarged glands were found. The tumor was removed surgically, and there was no further reproduction. Pathologically the growth was a fibrosarcoma.

BLASTOMYCOSIS. N. REBAUDI, Arch. ital. dermat. e sifil. **1**:10 (July) 1925.

The author reports a case of blastomycetic dermatitis of the face occurring in a native Italian 56 years old. He thinks this is the first authentic case of the condition reported in Europe, contracted on the continent. The case reported by Coppelli in 1912 was atypical, and the patient whose case was reported by Dalla Favera in 1914 had contracted the disease in Brazil. Cases reported by Sequeira, and Dubreuilh were incompletely studied, and the fungi were not definitely shown.

The cultures in the author's case were typical saccharomycetes, genus *Cryptococcus*, var. Gilchrist-Stokes. Inoculations in rabbits were positive, and the fungus recovered from the pus in the experimental lesions was also found in the tissues.

The patient recovered under local dressings with a vaccine made with the cultures of the cryptococcus in glycerin broth. Potassium iodide was used without much benefit in doses as high as 6 Gm. daily.

A RARE VARIETY OF ERYTHEMATOUS LUPUS. M. MONACELLI, Arch. ital. dermat. e sifil. **1**:44 (July) 1925.

A girl, aged 20, presented erythematous and telangiectatic patches on the face, erythematous, raw looking lesions on the lower lip, papulonecrotic tuberculids of the extremities, lichen scrofulosorum of the thorax and lupus vulgaris on the hard palate. She had also suffered from chilblains some time before. The author concludes that lupus erythematosus is often, as in his case, a cutaneous tuberculid.

NEVUS ANEMICUS. A. BAGNOLI, Arch. ital. dermat. e sifil. **1**:52 (July) 1925.

This is a report of two cases of this rare condition. Both patients were women. The nevi had developed in the course of a few years; they were not congenital. The article reviews the pathologic findings of several authors which are not in agreement, some finding an aplasia of the skin capillaries, others a reduced number of blood vessels and others a degeneration of the intima.

A Case of Gummatous Lymphoma of the Neck. G. Miani, Arch. ital. dermat. e sifil. **1**:81 (July) 1925.

This is a report of a case of a gumma developed in one of the lymphatic glands of the left side of the neck in a man, aged 20, five months after the initial lesion. The gumma underwent ulceration while under treatment, but finally healed up after four injections of neo-arsphenamine.

Lesions of the Mouth in Darier's Disease. E. Bizzozero, Gior. ital. di dermat. e sifil. **66**:1317 (Oct.) 1925.

Five cases of Darier's disease are reported by the author in all of which whitish, slightly elevated papules with a mosaic distribution were observed, especially on the hard palate. The lesions bled easily under the slightest trauma. This last mentioned characteristic is of importance for the differential diagnosis with lichen planus and leukoplakia.

A New Sign Obtained by Raclage in Lichen Planus. E. Bizzozero, Gior. ital. di dermat. e sifil. **66**:1134 (Oct.) 1925.

Lichen planus papules when submitted to energetic raclage with Brocq's curet show a subepidermic hemorrhage which, together with a certain amount of lymph, gives rise to a small vesicle filled with pink liquid. This phenomenon is due to an exaggerated fragility of the blood vessels in this condition.

Vegetating Staphyloid Dermatitis. M. Artom, Gior. ital. di dermat. e sifil. **66**:1138 (Oct.) 1925.

The author reports a case of this condition in a child, aged 10. The lesions were situated on the face. *Staphylococcus pyogenes-albus* were isolated in pure culture from the vegetating masses. The author concludes from his bacteriologic and experimental studies that dermatitis staphylogenes is the result of infection with attenuated germs, which in a normal state of virulence would produce abscesses.

Pardo-Castello, Havana.

DERMATOLOGIC ABSTRACTS

The Journal of the American Medical Association

Biology of Streptococcus Erysipelas. III. Experimental Production of Erysipelas in Rabbits; Demonstration of Protective Power of Immune Erysipelas Serums. K. E. Birkhaug, Bull. Johns Hopkins. Hosp. **37**:307 (Nov.) 1925.

Intracutaneous inoculation of hemolytic streptococci isolated from human cases of erysipelas produced typical erysipelas-like lesions in the skin of normal and susceptible rabbits. Three types of lesions were observed by Birkhaug: erythematous, diffuse and phlegmonous. The pathologic picture of the erythematous and diffuse lesions was similar in nature to that seen in human cases

of erysipelas. Intracutaneous infiltration of mixtures of immune erysipelas serum and hemolytic streptococci of erysipelas origin afforded local protection against the injurious action of the streptococci. Normal rabbit serum or immune erysipelas serum heated at 60 C. for thirty minutes failed to protect the skin against the harmful effects of the inoculated erysipelatous streptococci. Intravenous or subcutaneous administration of large doses of immune erysipelas serum protected the animal against lethal doses of hemolytic streptococci isolated from erysipelas, when the serum was injected twenty-four hours before the bacterial inoculation. Normal rabbit serum or immune erysipelas serum heated at 60 C. for thirty minutes offered no protection against the lethal dose of erysipelatous streptococci. Immune erysipelas serum afforded no local or general protection against the harmful action of hemolytic streptococci isolated from nonerysipelas sources. Intradermal infiltration of Dochez' antiscarlatinal serum produced the blanching phenomenon in the rash of 94 per cent of the scarlet fever patients, whereas similar infiltration of anti-erysipelas serum failed to produce the blanching phenomenon in the rash of scarlet fever. Intradermal, intravenous and intramuscular injections of large doses of immune erysipelas serum in cases of erysipelas seem to offer promise for the specific treatment of the disease.

Treatment of Raynaud's Disease by Negative Pressure. R. S. Crichlow, U. S. Veteran's Bureau Med. Bull. **1**:14 (Dec.) 1925.

Crichlow has made use of so-called negative pressure of Bier's hyperemia in several cases of Raynaud's disease, also of senile arteriosclerosis, with marked beneficial results. This treatment brings the circulation of the extremities under entire control. The patient can easily be taught to use this aparatus himself, and the results are most gratifying in the relief of pain and in stopping the progress of this disease, as well as in restoring him to his former health.

Five Cases of Thrombo-Angitis Obliterans. J. A. Thurston, U. S. Veteran's Bureau Med. Bull. **1**:18 (Dec.) 1925.

All five cases reported by Thurston occurred in white Gentiles. All five had oral infection. Every form of treatment was tried in these cases, though not all forms in each individual case; hot and cold applications, injections of salines and sodium citrate intravenously, Locke's solution, Ringer's solution, typhoid vaccine, vessel exercise, ligation of the femoral vein, arteriovenous anastomosis, periarterial sympathectomy and amputation. However, amputation was the only form of treatment that met with any measure of success.

Inunction Treatment of Syphilis. B. Albrecht and E. Evers, Med. Klin. **21**:1807 (Nov. 27) 1925.

Albrecht and Evers found no therapeutic action from inunction with bismuth in syphilis of rabbits.

Endemic Chronic Arsenicism. J. J. Bosco, Semana méd. **2**:951 (Oct. 15) 1925.

Bosco illustrates some extreme cases of keratoderma from ansenic in the water. He urges the necessity for suspecting endemic arsenicism with symmetrical lesions of the kind; the diagnosis is established beyond question when there is pigmentation besides. The melanoderma persists even after the keratoderma has retrogressed. Córdoba province has several endemic foci, but Bell-Ville, the principal one, has now secured a safe water supply.

Society Transactions

NEW ENGLAND DERMATOLOGICAL SOCIETY

Regular Meeting, Oct. 14, 1925

HENRY J. PERRY, M.D., *President*

ANGIOMA SERPIGINOSUM. Presented by DR. BLOSSER.

G. W. J., a man, aged 59, has had a reddish stain or mark in each popliteal space ever since he can remember. Each is about the size of a quarter and resembles a portwine stain. About five years ago similar lesions began to appear on both ankles and feet. At the present time there is a meshwork of reddish, vascular rings, in some areas coalescing to form patches of uniform redness. Toward the periphery there are scattered small red puncta extending to the lower parts of the legs. There is moderate itching, which is worse in hot weather.

DISCUSSION

DR. BLAISDELL: I think the lesions could be accounted for by long continued varicose veins, and I should be content to call the condition a varicose eczema. The blood can be pressed out of many of the veins, suggesting a venous stasis.

DR. GREENWOOD: I consider this a case of angioma serpiginosum as it shows definite pigmentation.

DR. OLIVER: I am inclined to favor a diagnosis of mild eczema with some purpura.

DR. CUMMINS: It does not seem probable that eczema or purpura would remain unchanged for so long a time.

DR. COUES: I think we have seen a great many cases resembling this one in long continued varicose veins accompanied by pigmentary changes.

DR. BLOSSER: I do not see how this can be considered a varicose eczema when the skin has been perfectly smooth and there has been no edema. The presence of nevi in early life, with the gradual development of the condition and the numerous punctate lesions, seem to make this a clear-cut case of angioma serpiginosum.

A CASE FOR DIAGNOSIS. EPITHELIOMA ON THE TONGUE? Presented by DR. APPEL.

E. H., a woman, aged 38, married and living at home, in May, 1924, developed a pinhead sized, painful ulceration in the middle of the posterior surface of the tongue, which gradually increased in size until at the end of of one year it was as large as a lima bean. Radium was used over a considerable period of time, and operation was advised but refused. Repeated Wassermann tests were negative. In September of this year arsphenamine and iodide of potash were administered in usual dosage, and 5 per cent chromic acid applications were made to the ulcer. The lesion has decreased to about one quarter of its former size, and is no longer painful.

DISCUSSION

DR. OLIVER: I think it is impossible to make a diagnosis between syphilis and epithelioma in many cases. I recall one case in which the condition was very much worse than in this one; the entire tongue was hard and thickened. Arsphenamine was used over a period of six months without improvement, and a diagnosis of carcinoma seemed assured; operation was considered impossible, and a rapidly fatal termination was prophesied. Arsphenamine was continued, and the condition cleared up entirely. I believe this to be a syphilitic condition.

DR. COUES: Would it have been safe to excise a small portion of the growth for microscopic examination?

DR. GREENWOOD: We were prepared to operate, but the patient refused; it would have been a good plan to examine a section of the growth. The condition did not respond to radium.

DR. BOARDMAN: A patient whom I saw last week developed a growth on the tongue three years ago, which was diagnosed as epithelioma, but which was treated with arsphenamine notwithstanding a negative Wassermann test, and it cleared up entirely. Recently a lesion developed on the other side of the tongue, which has been proved to be carcinoma by microscopic examination.

ACANTHOSIS NIGRICANS. METASTATIC SARCOMA OF THE LIVER. Presented by DR. SWARTZ.

G. H., a man, aged 41, has complained of pain in the epigastric region for ten years, especially marked after eating. Recently the pain has been increasing in severity and has centered in the umbilical region. About a year ago many papular lesions developed on the chest, back and arms, becoming pustular and later pigmented. Brownish pigmentations developed in the axillae, groins, perineum, around the nipples and umbilicus. About two months ago he noticed that his palms and soles were becoming rough and thickened. Recently a fungating growth developed about the mouth. He is rapidly failing in strength and losing weight, and the liver is greatly enlarged and nodular.

DISCUSSION

DR. PERRY: I think this is the finest example of the disease which I have ever seen in Boston.

DR. BLAISDELL: It is interesting to compare this patient's skin with an arsenic dermatitis. This man shows papular hypertrophy of the hands, and gives a history of having taken solution of potassium arsenite (Fowler's solution).

DR. OLIVER: I agree with the diagnosis of acanthosis nigricans, with non-pigmented lesions on the arms, legs and body. I do not believe that arsenic can account for the present condition.

SUNLIGHT URTICARIA. Presented by DR. CUMMINS.

H. J., a woman, aged 28, during the past seven years has shown marked urticarial developments on parts subjected to sunlight. Even brief exposure is followed by the appearance of wheals, which last about twenty minutes, itch and burn severely, and disappear without leaving any trace. All parts of the body are susceptible; early or late sunlight does not cause trouble; sunlight

through window glass produces reaction; exposure to strong wind results in similar urticarial reactions; wheals developed after exposure to ultraviolet ray application. All tests and a medical examination resulted in negative findings.

DISCUSSION

Dr. Oliver: I am reminded of a case I saw in France during the war. A soldier developed urticaria whenever a drop of water touched him, a wheal appearing immediately after contact.

Dr. Lane: A recent case in the hospital showed urticaria when the patient put the hands in cold water. A piece of ice placed against the arm resulted in the development of atypical wheal in a minute and a half.

Dr. Swartz: I am interested to know whether the patient is more sensitive to the ultraviolet or the infra-red rays, as she gives the history that both wind and sunlight affect her skin.

Dr. Chase: A patient whose husband had an extensive business in the tropics suffered intensely whenever she attempted to travel in the South at any season of the year. The summers in the north were seasons of discomfort. Small doses of ultraviolet ray seemed to be beneficial at first, but later she developed marked reactions from this agent.

Extensive Pigmented Nevus of the Thigh. Presented by Dr. Boardman.

A. G., a colored woman, aged 23, since birth, has had a slightly raised, somewhat circular area on the front of the right thigh, about 5 inches (12.7 cm.) in diameter; it is a deeply pigmented, firm, warty surface, and showing considerable hair growth. In the center of the lesion there are several fissures from which a slight seropurulent discharge has recently been exuding.

DISCUSSION

Dr. Blosser: The discharge suggests malignancy, but there are no palpable glands in the groin. I doubt the value of roentgenotherapy, and believe that surgical removal is indicated.

Dr. Cummins: Though the discharge is recent, it has a distinctly malignant odor. Intensive irradiation is strongly indicated.

Dr. Lane: I do not consider roentgen-ray treatment advisable, but I should feel that complete removal or destruction would be desirable, as the growth will probably eventually become malignant.

Dr. Greenwood: I agree with Dr. Lane that roentgenotherapy is not advisable, and see no reason why the growth cannot be removed surgically.

Dr. Perry: I feel apprehensive of any deeply pigmented nevus of this type. A recent case showing a similar growth in the abdominal wall, in which operation was refused, went on to typical sarcomatous development.

Granuloma Inguinale. Presented by Dr. Boardman.

V. S., a colored woman, aged 29, unmarried, born in Boston, who has always lived in Massachusetts, has never menstruated, and has been told that she has an infantile uterus. For several years she has noticed transient swellings of the labiae, but about a year and a half ago a small lump developed on the labia which has grown larger until at the present time there is much swelling and

hardness, with several ulcerating areas. The Wassermann test is four plus. Intracellular bodies in the epithelial cells from a smear have been interpreted by Dr. Shattuck as Donovon bodies. Intramuscular injections of 0.4 per cent solution of triamide of antimony thioglycolate have been given over a period of a month, the dose starting at 2 cc. and increasing to 10 cc. without reaction and resulting in definite healing of the ulcers.

DISCUSSION

DR. SHATTUCK: This disease is by no means rare, and has been recognized in many parts of the United States. Several patients have been under treatment in Boston during the past few years. This case is by no means a typical one. The patient has a fairly definite elephantiasis of the vulva with a granulomatous development superimposed. The characteristic organisms of granuloma inguinale have been demonstrated. She has a strongly positive Wassermann reaction, but has had no antisyphilitic treatment. I think it desirable to attempt to clear up the Wassermann test by treatment, and then a plastic operation might be beneficial.

DR. OLIVER: Are the injections painful?

DR. SHATTUCK: The patient has had many treatments and has made little complaint. A weak solution was used at first, the strength being increased gradually.

DR. GREENWOOD: Have you ever found the organisms in section?

DR. SHATTUCK: Yes. The section must be very thin. In the smear the cell can be spread out. The bacillus is a curious organism and appears in two forms—a cystic type resembling cheese and not in large capsules, and another form showing definite capsules.

DR. EATON: I have seen many cases of elephantiasis in Haiti, and this case is similar to those except that the involvement is not so extensive.

DR. APPEL: Can you give any help as to the etiology of elephantiasis? I understand that this patient was born in Massachusetts and has never been out of the state.

DR. SHATTUCK: Elephantiasis is found everywhere. Filaria is in many cases a factor, but I do not consider it essential. I have seen many cases of elephantiasis which have never been in the south.

COLLOID DEGENERATION OF THE SKIN. Presented by DR. GREENWOOD.

The patient, a man, aged 38, a steel-hardener, born in Scotland, whose previous history is negative, has a condition of six months' duration, which first appeared about the eyes, spreading to the face and neck, with a few lesions in the flexures of the arms. The lesions are numerous, and vary in size from that of a pinhead to 0.5 cm. in diameter. They are raised above the surface and have a canary-yellow color, appearing translucent as through filled with fluid. A semisolid gelatinous substance can be expressed after incision. A few lesions suggest xanthoma. Microscopic examination of a fragment shows an area of degeneration in the corium infiltrated with foreign body giant cells and other wandering cells.

DISCUSSION

DR. OLIVER: I think some of the lesions might be likened to lymphatic angioma.

DR. CHASE: Do you think his occupation is a factor?

DR. GREENWOOD: I do not know. The lesions on the arm cannot be accounted for by exposure to heat except through his clothing.

DESTRUCTION OF NASAL BONE. SYPHILIS? NEW GROWTH? Presented by DR. GREENWOOD.

M. S., aged 6, a boy, developed a destructive process of the nose following a trauma six months ago. The previous history is negative; the Wassermann test is negative; the mother's Wassermann test is negative. There is chronic induration over the lower half of the nose, with profuse purulent discharge from both nares. The upper portion of the nose is destroyed, but there is no evidence of bone destruction and no overgrowth of tissue. The septum is pushed over to the right lateral wall, and there is an anterior perforation in the cartilage. The roof of the mouth is not pushed down. A biopsy from the right side of the nose shows purulent granulation tissue. The patient has had no treatment for syphilis. The condition is decidedly better than it was a week ago, but much worse than it was several weeks ago.

DISCUSSION

DR. OLIVER: I think the destruction is too marked for a specific condition, but I should strongly urge antisyphilitic treatment.

DR. CUMMINS: The nose looks very different from what it did a month ago. There is much less destruction, and it is not nearly as red. It looks more like a specific condition now.

DR. EATON: This resembles gangosa. These cases have responded remarkably to antisyphilitic treatment.

DR. OLIVER: I am reminded of a case of rapid ulceration which I saw in which the Wassermann reaction was negative. Arsphenamine was used, although the condition was not considered syphilitic. It may have been gangosa.

EPIDERMOID CARCINOMA OF THE HAND. Presented by DR. GARFIELD.

Mrs. V. K., aged 31, first came to the hospital in September, 1924, showing an ulcerated area involving the left palm and extending over the middle finger. The Wassermann test was positive, and a diagnosis of syphilitis was made. She was given arsphenamine, iodide of potash, and mercury, followed by a course of bismuth injections, but the Wassermann test still remained four plus, and the lesion grew progressively worse. A biopsy resulted in a diagnosis of epidermoid carcinoma in July, 1925. Ten applications of radium have been made. The roentgenograms shows no bone involvement. Improvement is marked.

DISCUSSION

DR. APPEL: The first diagnosis in this case was eczema. As no improvement occurred under treatment, and the Wassermann test was positive, a diagnosis of syphilis was made, and antisyphilitic treatment was carried out for a year without benefit. Not until the biopsy was made was a correct diagnosis determined. The condition is now practically cleared up.

WESLEY T. LEE, M.D., Secretary.

NEW YORK DERMATOLOGICAL SOCIETY

Regular Meeting, Oct. 27, 1925

A. SCHUYLER CLARK, M.D., *President*

MYCOSIS FUNGOIDES FOLLOWING ARSPHENAMIN DERMATITIS, ASSOCIATED WITH PETECHIAL HEMORRHAGES. Presented by DR. HOWARD FOX.

M. H. N., a business man, aged 51, born in the United States, was said to have suffered from purpura hemorrhagica at the age of 17. At that time he had had profuse bleeding from the nose and mouth and "hemorrhagic" spots on the neck, arms, and legs, the condition lasting for several months. In 1899, he was infected with syphilis, and was treated intermittently for years with mercury and potassium iodid by mouth. In 1914, he received three intravenous injections of arsphenamin. Following the third injection, he suffered from a severe exfoliative dermatitis covering the entire cutaneous surface, which disappeared completely at the end of three months. In 1922, he was given a "small dose of neo-arsphenamin," which was again followed by a general exfoliative eruption but of a milder type than the previous one. This time the skin never returned to its normal condition, and since then he had suffered continuously from the eruption as presented. The patches had shifted but had never disappeared. Itching had been fairly severe on the thighs, but much less severe on other affected parts.

Examination showed a generalized, roughly symmetrical, eruption of the trunk and extremities, consisting of fairly well defined reddish, dry, erythematosquamous patches, showing a varying amount of infiltration in different parts of an individual patch. Many of the patches showed a distinct tendency to crescentic outline. None of them showed any anesthesia. There were no other changes indicative of lepra. The scaling was moderate in amount and nowhere silvery in character. The scalp, face, hands and feet were not involved. A moderate number of punctate excoriations were scattered over the body. Fine hemorrhagic points, similar to the so-called cayenne pepper spots of Majocchi's disease, were seen in great abundance on both the patches and the normal skin between them. They did not disappear under pressure. The blood Wassermann test which had formerly been positive (3 plus) was now negative.

The patient had received roentgen-ray treatment on one side of the trunk, with resulting involution of the lesions, followed by brownish pigmentation. A histologic section made by Dr. J. Frank Fraser on low power magnification showed a picture of a simple inflammation with acanthosis (elongated rete pegs) and marked perivascular infiltration. On high power magnification, the infiltration was seen to be polymorphous in character, large cells being intermingled with lymphocytes. There were also a few small hemorrhages in the upper cutis.

DISCUSSION

DR. FRASER: I cannot make a diagnosis of mycosis fungoides from the slide presented, but would suggest a further study of the case before deciding on a diagnosis.

DR. KINGSBURY: Clinically, the diagnosis of mycosis fungoides seems the most likely one.

DR. MACKEE: I agree with Dr. Kingsbury that clinically the diagnosis of mycosis fungoides seems the most likely one. It is an unusually interesting case because of the previous history. I realize that it is hazardous to attempt

to make a pathologic diagnosis as a result of examining a single slide for a few minutes in an inadequate light as I have just done, for it would be necessary to study a number of slides carefully. However, I am unable to make a pathologic diagnosis of mycosis fungoides as the result of this examination. The slide seemed to show a border line between inflammation and granuloma, and I failed to find anything in this single slide that was sufficiently typical of mycosis fungoides. Nevertheless, I think it is a case of mycosis fungoides.

DR. HIGHMAN: I also feel that clinically speaking there is little doubt of its being a case of mycosis fungoides. Histologically, of course, the particular slide presents nothing indicative of that fact, neither are there any of the characteristic features of mycosis in the photomicrograph. Of course, to reach a conclusion microscopically one requires more than a passing glance, and if the particular lesion selected for study does not show the features sought it will be necessary to procure further material for study. I think, however, that with further study Dr. Fox's diagnosis will be substantiated.

DR. HOWARD FOX: I am glad to hear the consensus of opinion that the eruption is clinically one of mycosis fungoides. It seems to me, from the photomicrographs presented, that the suggestion of a mycosis should be indicated from the polymorphism of the cellular infiltrate. I regret that two of the unusual features in this case were not discussed. The presence of the numerous cayenne pepper spots is certainly not part of the clinical picture of mycosis fungoides. Their possible relation to a purpuric tendency, as indicated by the patient's history, or to the syphilitic infection, raises interesting questions. Whether this disease originated as an arsphenamin dermatitis is also of special interest.

A CASE FOR DIAGNOSIS (TUBERCULOSIS OR ACTINOMYCOSIS?). Presented by DR. WISE for DR. PAUL ASCHNER.

Mr. H. F., aged 29, married, an engineer, had had the disease since 1915, in which year he was operated on at the Mount Sinai Hospital for an abscess pointing in the right groin. Some months later a femoral gland at this site was excised. In 1917, he was apparently well, passing the examination for service in the Navy. In 1918, he was in China, where he contracted dysentery. In 1920, he came to this country. He had trouble with his teeth, requiring a number of operations on the jaws. The following year he began to have pains in the back. Roentgenograms taken by Dr. Jacques revealed a destructive process involving the ilia and the transverse processes of the lower lumbar vertebrae. While wearing a brace for this condition, the skin of the groins and over the ilia became deeply pigmented, leathery and bound down. In both inguinal regions there appeared large vegetating and fungating lesions, secreting a foul smelling exudate — the appearance simulating dermatitis vegetans. Rectal examination revealed a stricture of the rectum with nodule formation. Histologic examination of the skin from the groins and the mucous membrane from the rectum revealed no specific type of tissue change — merely a chronic inflammatory lesion with no definite characteristics.

Examination for the organisms of actinomycosis, blastomycosis, tuberculosis, granuloma pudendae, etc., proved negative. The Wassermann tests of the blood and the spinal fluid were negative, as was also the blood count. The patient improved temporarily under ascending doses of potassium iodid, pre-

scribed at the Mount Sinai Hospital by Dr. Goldenberg. There was no marked change after the administration of a course of injections of neo-arsphenamin.

Through the courtesy of Dr. Paul Aschner, the patient subjected himself to further investigations. Dr. Hopkins made guinea-pig inoculations for tuberculosis, and has received a number of specimens removed from lesions in the groin for further study. The results of further investigations will be reported at the next meeting of the Society.

DISCUSSION

DR. HIGHMAN: It is almost impossible to make a clinical diagnosis of such a case. There are many possibilities to consider before a definite diagnosis can be made. It will probably be necessary to investigate the case carefully, but I would suggest that the diagnosis of dermatitis vegetans be considered.

DR. HOWARD FOX: I agree with Dr. MacKee in regard to the possibility of its being a fungating eruption due to some pyogenic organism and that the diagnosis can be established only by further study.

XANTHOMA DIABETICORUM. Presented by DR. HOWARD FOX.

S. C., aged 33, born in Poland, a tailor, first noticed an eruption on the left shin about one year before presentation. A few months later it involved the right shin, elbows, palms and right thigh. It occasioned no subjective symptoms. Seven months ago he suffered from diabetic coma, the urine at that time showing 5 per cent. of sugar. He received insulin treatment then and subsequently at intervals, with improvement in both general health and appearance of the eruption. He had been irregular in his treatment. The Wassermann test with cholesterinized antigen was positive (2 plus) on one occasion and negative on another. No definite history of syphilis was given.

Examination showed on the regions mentioned individual and grouped semisolid, smooth, elevated yellowish nodules characteristic of xanthoma. On the shins were asymmetrically situated areas of sharply defined, depressed, pigmented scars with festooned borders. These were strongly suggestive of scars following the involution of a nodular syphilid. Histologic examination of the scar tissue showed blood vessel changes suggestive of syphilis. On parts of these scarred areas were seen a few typical xanthoma nodules. The patient was a poorly nourished man of mediocre mentality, who was sent from the fifth Avenue Hospital through the courtesy of Dr. H. Harris.

DISCUSSION

DR. HIGHMAN: I think the man has syphilis and also xanthoma. The condition appears to be a syphilitic granuloma, and the scars seem to be syphilitic.

LUPUS VULGARIS MUTILANS. Presented by DR. WISE.

Miss A. M., (a patient from the Department of Dermatology and Syphilology, Vanderbilt Clinic) aged 19, was born in Italy, and for seven years had suffered from the eruption exhibited. The left foot was involved; all five toes were fused and shrunken; the tips of the second and third toes showed superficial excoriations. The dorsum of the foot and the ankle presented thickened, erythematous, hidebound skin. This area was sharply defined on the sides of the foot and gradually faded into the atrophic skin on the leg. The left leg

was considerably thickened and showed marked atrophic scarring. The inner side of the left knee and the outer side of the left thigh presentd palm-sized circumscribed atrophic patches. The Wassermann blood test was negative. The microscopic studies showed an inflammatory process. A second biopsy was to be made for further study.

DISCUSSION

DR. HOWARD FOX: The case seems to be one of syphilis. The scars are not the deforming, banded, keloidal type seen in tuberculosis.

DR. FRASER: I agree with Dr. Fox that the scars are syphilitic on a lupus vulgaris base.

DR. BECHET: I agree with Dr. Fox and Dr. Fraser about the scars. There is an enormous amount of mutilation, with a large active patch of the disease on the dorsum of the foot. This patch is superficial, without ulceration and rather benign in appearance. It is difficult to believe that this patch can be the same disease which caused the severe mutilation.

DR. MCKEE: I understood that the lesions on the leg and foot had existed for many years. This is one reason for considering the eruption tuberculous rather than syphilitic, because in that length of time a syphilitic lesion would be likely to disappear, or else to destroy more tissue.

LICHEN PLANUS LIMITED TO THE MOUTH. Presented by DR. HOWARD FOX.

Miss D., aged 48, a hospital superintendent, born in Canada, had suffered from an eruption in the mouth for the past four months. There was no history of tuberculosis or syphilis, and the patient had never smoked.

She presented an eruption limited to the tongue and buccal mucosa, consisting of superficial grayish-white lesions, partly discrete, and pinpoint in size, but mainly occurring as reticulated or diffuse solid areas. There was no appreciable infiltration on palpation. The lesions on the tongue occupied the anterior half (especially the right side) of the dorsum and right side of the under surface. The lesions on the buccal mucosa involved both cheeks, especially the interdental clefts. There was also a superficial ulceration, one-half inch in diameter, opposite the last molar of the left side. A jagged tooth in this locality had previously been extracted. The ulcer was painful, tender and reddish. There was no cutaneous eruption or any involvement of the genitals. The patient was well nourished and apparently in good health.

DISCUSSION

DR. HIGHMAN: It looks like a case of lichen planus, but I do not understand the lesion on the cheek.

DR. FRASER: I think it is a case of lichen planus.

DR. MACKEE: I think the ulceration is traumatic, and that the other lesions represent lichen planus.

DR. CLARK: I also think it is lichen planus, with a traumatic ulceration of the buccal mucosa.

LICHEN PLANUS CONFINED TO THE MUCOUS MEMBRANES. Presented by DR SCHWARTZ.

F. L., a clerk, aged 23, presented an eruption of six months' duration, confined to the buccal mucous membrane, tongue and glans penis. Three different

types of lesion were present: on the glans were two typical elevated rings, 5 mm. in diameter; the lesions on the tongue were flat, of a grayish-white color, and irregular in outline; the buccal lesions were made up of white papules in typical "lace-work" arrangement, the patches being irregularly rounded and well demarcated from the normal mucous membrane.

LUPUS ERYTHEMATOSUS DISCOIDES OF THE SCALP AND FACE, WITH DISSEMINATE LESIONS ON THE HANDS. Presented by DR. BECHET.

R. H., a white girl, aged 17, from Dr. Aitken's service, stated that three months previously she had first noticed a patch on her face. This patch rapidly enlarged until it covered the greater part of the face. The lesions appeared on the hands two months later.

When first observed, the scalp was covered with a large number of scarred, reddened, scaly areas, more or less denuded of hair. On the face was a large reddened, sharply outlined, scaly patch, arranged in "butterfly" formation on the nose and cheeks. In various areas of this patch were adherent scales, which on removal showed digitlike prolongations. Keratotic patulous follicular openings were also seen. On both the extensor and flexor surfaces of the hands there were numerous violaceous red patches beneath the upper layer of the skin, some of them disappearing on pressure, much like and almost indistinguishable from lesions of erythema multiforme. The patient was sick, emaciated and had a rise in temperature. She gave every evidence of a severe toxemia.

DISCUSSION

DR. HIGHMAN: What was the duration of the lesion?

DR. BECHET: The patient said that it was of only four months' duration, but the appearance of the lesions does not coincide with the history, as the scalp is extensively involved, with many old scarred areas devoid of hair, and the patch on the face is thickened, with keratotic follicular openings. With such evidence, no reliance can be placed on the date of incidence of the eruption as given by the patient.

DR. HIGHMAN: It resembles the type described by Kaposi as erysipelas perstans facies, with disseminated lesions on the rest of the body. The girl probably will not long survive.

DR. CLARK: I am inclined to agree with the diagnosis of disseminated lupus, and I think the prognosis is serious.

DR. MACKEE: The patient is most certainly tuberculous. She has a scar on the side of the neck, the result of suppurating glands in childhood, and her general aspect also suggests tuberculosis. I would advise that an adequate examination be made, and if tuberculosis is discovered clinically in the lungs or other organs, that the patient be put at rest. This would be the best treatment for the lupus erythematosus, which shows tendencies to become generalized.

DR. BECHET: The lesions are apparently old, and they are extensive throughout the scalp. On the face are keratotic follicles and infiltration. In my opinion it was primarily of a discoid type and later became disseminated. It was not primarily of the disseminate type.

ARSENICAL KERATOSIS, PIGMENTATION AND EPITHELIOMA IN A CASE OF DUHRING'S DISEASE. Presented by DR. SCHWARTZ.

The entire cutaneous surface of A. D., an elevator operator, with the exception of the face, presented a mottled appearance due to the presence of dark

brown pigmented patches enclosing areas of normal skin. Groups of vesicles and vesicopapules showing scratch-marks were scattered irregularly over the surface of the trunk and limbs, together with a mild degree of generalized keratosis. A few scattered warty growths were present on the forearms and chest. The palms and soles showed marked keratosis and a moderate degree of hyperhidrosis. The palmar aspect of the fingers were the seat of numerous keratotic elevations. A squamous cell epithelioma had developed from a keratotic growth situated on the palmar surface of the second phalanx of the right thumb.

Chemical examination of a mixture which the patient had been taking over a period of eight years revealed the presence of a definite arsenical content. The case was presented as one of chronic arsenical poisoning.

DISCUSSION

DR. MACKEE: To teachers of dermatology this case emphasizes the importance of advising against the empirical or indiscriminate use of arsenic. The value of arsenic in the various dermatoses, in my opinion, is limited, and it often does more harm than good.

ACNE VULGARIS (GROUP TYPE). Presented by DR. BECHET.

H. C., a boy, aged 5, had had a lesion on the left cheek for four months. When first seen in Dr. Aitken's service, he had on the left cheek a sharply defined circinate lesion, with some boggy induration at its lower border, from which a drop of pus could be expressed. The diagnosis of lupus vulgaris was immediately considered, but on closer examination there was normal skin in the center, with several distinct comedones, and depressed follicular scars from exfoliated comedones. What at first resembled "apple-jelly" nodules, through the diascope was soon found to be only comedones bearing some resemblance to the nodules on pressure. The indurated lower edge consisted of what were apparently grouped small distended sebaceous glands, from which pus could be expressed. In no part of the lesion was there any ulceration, deep infiltration, scarring, etc. Crocker described types of grouped comedones and deeply situated infected sebaceous glands which markedly resembled those in the present case.

DISCUSSION

DR. MACKEE: It is necessary to consider the condition known as grouped comedones in children and also the possibility of acneform nevus. The patch of eruption exhibited by the patient was violaceous, sharply marginated, rather elevated above the surface of the skin, and on pressure there seemed to be apple-jelly nodules. Before hazarding a definite diagnosis, I should wish to examine the patient more than once and under better conditions; but I think it is a case of lupus vulgaris.

DRS. WISE, SCHWARTZ, HOWARD FOX and CLARK were all inclined to make the diagnosis of lupus vulgaris.

DR. BECHET: When I first observed the case, I too, made a diagnosis of lupus vulgaris, but after more careful and repeated observations I noticed typical acne comedones and expressed several. The patient also had pitted scars from old exfoliated comedones. What Dr. MacKee said about the presence of apply-jelly nodules could in a better light be recognized as compressed comedones. The whole lower edge of the lesion is boggy, as in a

small sebaceous abscess; pus was expressed from it. On the other cheek are several small milia. I still believe that further investigation will prove the case to be a type of acne comedone such as that described by Crocker.

SEVERE RADIUM DERMATITIS FOLLOWING TREATMENT OF PORT WINE MARK. Presented by DR. HOWARD FOX.

C. H., aged 7, American by birth, was presented to show disfiguring results from the use of radium in the treatment of a port wine mark. The nevus had been moderately extensive, situated mostly on the chin and left cheek, with smaller areas about the eye and right cheek. Treatment with radium (plaques?) had been instituted by a reputable physician four years before presentation and had been continued at intervals for three years. There had been no treatment for the past year. It was not possible to ascertain when the telangiectasis had first appeared. As presented, the patient showed a marked radiodermatitis of the skin of the chin and left cheek, characterized by profuse telangiectasis, white atrophic spots and slight pigmentation. No keratoses were noted. He was a stout, well nourished, healthy looking boy, of the dark brunet type.

DISCUSSION

DR. WISE: I do not think radium treatment is good for port wine nevus, although with a first class operator pretty good results can sometimes be obtained.

DR. MACKEE: I cannot agree that it is possible to obtain good results by treating port wine marks with radium without the risk of serious results. In order to make a port wine mark disappear with radium, it is necessary to give several or many doses of sufficient strength to provoke at least a mild second degree reaction. Sometimes such treatment results in great improvement or even disappearance of the nevus, and the remaining skin shows no injury other than some atrophy and perhaps some telangiectasia. On the other hand, such treatment is likely to be followed many years later by ugly scarring, extensive dryness, contractures, deformities and keratoses or cancer. Even with the most skilful application of radium such results are likely to happen. In my opinion, radium should not be used for the treatment of port wine marks.

DR. CLARK: Another time I shall try to show two cases of port wine nevus in which the patients were treated with radium: half of one patient's face was affected. Of course, there is still distinct redness, but the color has been lightened many degrees, and some areas show little coloring. That patient was treated three or four years ago, and there is no visible effect of the radium on the skin. In the other case, the patient, a youth, aged 16, has hardly any port wine nevus left, although it was a most annoying mark when first treated. Of course filtered radium should be used. I never make more than two attempts with radium on any particular area. I cannot agree with Dr. MacKee that results are not justified on account of the danger and failures that so frequently happen.

DR. MACKEE: I think Dr. Semken, Dr. Wickham, Dr. Degrais and others have obtained fairly satisfactory results. I am willing to admit the possibility of occasional good results, but the risk is too great. I have seen many patients like the one under discussion, and even when the results are supposed to be excellent I do not like the appearance of the atrophic skin. Such skin may later become sclerotic, keratotic, etc.

DR. HOWARD FOX: I agree most heartily with the opinions of Dr. MacKee. While it may be possible to obtain good results with radium in the treatment of port wine mark, the possibility of the results being bad are too great, in my opinion, to justify this method of treatment. The case is similar to hypertrichosis. We all know that it is possible to remove superfluous hairs by the roentgen ray without appreciable damage to the skin, but the method is too dangerous to use. Dr. Frank Simpson, I understand, is not too enthusiastic about the use of radium for nevus flammeus. I agree with him; in fact, I think that extensive cases are best let alone. I am pleased to say that Dr. Sequeira of London is of the same opinion. I have frequently congratulated Dr. Wise on the excellent result he obtained in one case of port wine mark with the Kromayer lamp. I have, however, seen numerous other patients at dermatologic meetings in whose cases I have felt that the original birthmark was preferable to the changed appearance produced by treatment.

MELANOSARCOMA OR IDIOPATHIC HEMORRHAGIC SARCOMA OF KAPOSI (?). Presented by DR. BECHET.

A. S., an Italian woman, aged 54, appeared in Dr. Aitken's service with the following history: Two and a half years previously she had noticed on the second toe of her left foot one or two nodules, which six months later had grown considerably. At that time the toe was amputated. Four months after the amputation, there was a recurrence of the nodules in the scar, and since then there had been considerable extension of the disease on both the dorsal and plantar surfaces. On inspection, several large violaceous mulberry red nodules, quite firm on palpation, were noticed adjacent to the site of the operation. There seemed to be some involvement of the blood vessels; the lymph nodes in the groin were greatly enlarged, forming a large, easily palpated mass. The patient's general health was excellent, and she seemed perfectly well. Clinically, the lesions resembled melanosarcoma, yet the duration of two years without any breakdown in health or great increase in the number of lesions, and their apparent grouping around blood vessels favored the slower growing hemorrhagic type of sarcoma.

DISCUSSION

DR. HOWARD FOX: I think the metastases show that the condition is a melanoma and not a Kaposi's sarcoma.

DR. FRASER: There should be no question about the diagnosis: I should unhesitatingly call it a case of melanoma. Recent investigations have shown that some of these tumors are of epithelial and others of connective tissue origin; the term melanoma includes both types.

DR. BECHET: Of course the prognosis of the case is absolutely hopeless, but presumably roentgen-ray treatment is the best means for prolonging the life of the patient.

DR. MACKEE: I treated several patients who had melanoma with the roentgen rays and radium more than ten years ago, and the patients are still alive and well. In my opinion, this patient should be treated with the roentgen rays, for it offers a chance for recovery — possibly the only chance the patient has.

ELEPHANTIASIS OF THE LOWER EXTREMITIES AND LYMPHANGIECTASIA OF THE VULVA. Presented by DR. WISE.

Mrs. T. O., (a patient from the Department of Dermatology and Syphilology, Vanderbilt Clinic) aged 30, presented markedly enlarged lower extremities,

swollen to four times the normal thickness. This swelling and dilatation extended from the ankles to the hips and included the vulva, and felt quite hard throughout. The duration of the process was seven years. The patient gave a history of having had erysipelatoid attacks for seven years, and of having had an appendectomy seven years prior to presentation. The vulva presented a lymphangiectasia.

DISCUSSION

DR. HOWARD FOX: I would consider it an ordinary case of elephantiasis nostras, following repeated erysipelatous attacks.

DR. FRASER: Is there any history of the patient's having been in the tropics, or of having had any acute illness characterized by fever and swelling of the lymph nodes, which was the history of a case of filiarisis I have recently had under observation. I do not, however, think the present case is one of filiarial elephantiasis.

DR. MACKEE: I have observed several cases resembling this one, in which there were acute local and general exacerbations with chills and fever, lymphangiectasis, oozing and crusting; the patients had not been out of New York or New Jersey, and they were carefully studied, the result being that the conclusion was due to pyogenic organisms. I think the case of this patient is of a similar type — namely, pseudo-elephantiasis or pyogenic elephantiasis, or chronic recurrent lymphangitis or elephantiasis nostras.

PHENOBARBITAL ERUPTION. Presented by DR. WISE.

Mrs. A. H., (a patient from the Department of Dermatology and Syphilology, Vanderbilt Clinic, previously presented before the Academy, Oct. 6, 1925) aged 37, had been troubled with vesicles on the tongue and mucous membranes, especially of the lower part of the upper lip, for two years. She gave a history of having taken phenobarbital tablets, and stated that the eruption seemed to appear about the time that she took the tablets.

On examination, the tongue presented a smooth atrophy with a bleb about the size of a pea, and a few similar sized ones were situated on the inner surface of the lower lip. The patient had been given phenobarbital as a test, and a few days later she presented new vesicles in the areas mentioned. The blood Wassermann test was negative, but nevertheless the consensus of opinion at the Vanderbilt Clinic was that the atrophic tongue was due to syphilis and that the vesicular eruption was caused by the phenobarbital.

DISCUSSION

DR. FRASER: The atrophic area on the tongue is not necessarily of syphilitic origin, for there are other conditions capable of producing atrophic spots on the tongue. The smooth atrophy of the tongue frequently found at necropsy and regarded by pathologists as pathognomonic of syphilis is always located, not on the tip, but at the base, of the tongue, and frequently involves the epiglottis. I agree with Dr. Wise that this is a case of phenobarbital dermatitis.

DR. HIGHMAN: I have seen two cases within six months — not, however, with the smooth atrophy, although if blisters form on the tongue there may be atrophy provided the tissue disturbance is deep enough, irrespective of the cause, and hence not always in syphilis.

Dr. MacKee: Smooth atrophy of the tongue can be produced by other diseases than syphilis — such, for instance, as pernicious anemia, pemphigus, etc. It is possible that a long continued and recurrent phenobarbital eruption on the tongue may produce atrophy. In this particular case, however, in addition to the vesicles and bullae — many of which are hemorrhagic and which were undoubtedly caused by phenobarbital, because the lesions never appeared except after the ingestion of this drug — the tongue presents a fairly well marked internal glossitis, with a few small areas of leukoplakia. In my opinion, we are dealing with syphilitic interstitial glossitis, smooth atrophy and leukoplakia, and also a recurrent vesicular phenobarbital eruption. Contrary to Dr. Fraser's experience, it is my recollection that syphilis of the tongue almost always involved the front half rather than the rear half of that organ. The negative Wassermann reaction in the case should be ignored.

Dr. Highman: I have seen smooth atrophy of the tongue both front and back in syphilis.

Dermatitis Lichenoides Chronica Atrophicans. Presented by Dr. Wise.

Mrs. C. P., (a patient from the Department of Dermatology and Syphilology, Vanderbilt Clinic) aged 53, presented two patches on the back, each about 3 inches (7.6 cm.) in diameter, and two smaller patches on the upper part of the chest, which had been present for two years. They showed distinct atrophy, and had small pinhead follicular plugs, giving a rough sensation on palpation. The lesions were distinctly marginated. The patient said that they all appeared at the same time and that they were never hard to the touch.

DISCUSSION

Dr. Fraser: I am very much pleased to see this case, as I have never before had an opportunity to observe a similar condition.

Dr. Clark: I agree with the diagnosis.

Parapsoriasis en Plaques. Presented by Dr. Wise.

A. G. (a patient from the Department of Dermatology and Syphilology, Vanderbilt Clinic), a woman, aged 35 (previously presented before the New York Academy of Medicine, October, 1925), had had an itching eruption for twenty years, accompanied by lack of eyebrows for the same length of time. There were scaly patches on the back and chest. There had been no changes in sensation, no anesthesia or hyperesthesia. A neurologic report was negative. Two microscopic examinations showed no tissue changes nor any inflammatory changes; examinations of scrapings were negative for Hansen's disease, which was therefore eliminated from the diagnosis. The patient was now presented with a tentative diagnosis of parapsoriasis in patches. There was still a question of whether the loss of eyebrows had any connection with the condition of the body.

Papulonecrotic Tuberculid or Prurigo Mitis? Presented by Dr. Wise.

Miss M. M., (a patient from the Department of Dermatology and Syphilology, Vanderbilt Clinic) aged 15, presented lesions on the face, chest, arms and hands, lower part of the legs and feet. This eruption had appeared every summer for the past three years, with recessions during the winter. The face showed erythematous papules and scaly reddish patches, covering the forehead, nose, cheeks and upper lip. On the neck were two irregular patches of crusted

erythematous patches. The extensor surfaces of the arms had similar grouped and discrete lesions. The dorsum of the hands showed bluish-red, wheal-like lesions as well as papules. The legs presented numerous pea-sized, crusted papular lesions, with some pustular ones. Some of the papular lesions on the hands and legs were lichenoid. There were some pitted scars on the arms and legs.

The microscopic examinations had not yet been completed.

DISCUSSION

DR. MACKEE: I do not agree with the diagnosis of papulonecrotic tuberculid, but think the lesions are the result of scratching and infection. The cause of the itching may have been insect bites, or something impossible to ascertain at present.

DR. WILLIAMS: It may be a recurrent summer eruption.

A CASE FOR DIAGNOSIS: LICHEN PLANUS OR SYPHILIS? Presented by DR. WISE.

Mr. H. S., (a patient from the Department of Dermatology and Syphilology, Vanderbilt Clinic) presented on the areas covering the malleoli of both ankles, grouped, pea-sized, deep red, slightly scaly patches, some of which showed scars with slight depressions. On the anterior surface of the lower third of the legs were small groups of similar lesions. He gave a history of venereal infection. The duration of the condition was five years. The Wassermann test was negative, and the biopsy report was that it was some simple inflammatory tissue.

DISCUSSION

DR. HOWARD FOX: The eruption is in a common location for lichen planus, and that diagnosis seems probable.

DR. MACKEE: It is often difficult to make a diagnosis of an antecedent eruption, based on scars and pigmentation. In this case, the location, configuration and history of a persisting pruritic dermatitis would warrant the probable diagnosis of lichen planus.

KELOID REMOVED WITH ENDOTHERM KNIFE SEVEN WEEKS PRIOR TO PRESENTATION. Presented by DR. WISE.

M. C., (a patient from the Department of Dermatology and Syphilology, Vanderbilt Clinic) a negro, aged 28, was presented to show the result of a combined treatment of a keloid which had been present on the back of the neck for seven years. This keloid had been about 4 inches (10.1 cm.) in diameter, and was raised from the skin about 5/8 of an inch (0.15 cm.). Dr. Eller, at the Vanderbilt Clinic, removed it by means of the endotherm knife under procain anesthesia. Four weeks later the wound had healed completely, and already presented a beginning recurrence of the keloid. Three-quarters of an erythema dose of roentgen ray, unfiltered, was given to the former keloidal area. It was proposed to repeat this dose monthly five or six times.

The case was presented to show a method of removing large keloids by means of bloodless surgery in combination with the roentgen ray, thereby saving many months, if not two or three years, of radiation therapy. An atrophic skin was also avoided by this combined method, as the otherwise large doses of roentgen ray necessary were not required.

DISCUSSION

DR. MACKEE: In my opinion, it is a mistake to treat large, thick, old, hard keloids with the roentgen rays or with radium alone. Such tumors require eight, ten, twelve or more intensive treatments, and so much treatment would probably leave a skin that might give rise to dangerous sequelae several or many years later. The roentgen rays and radium are not prophylactic against the development of keloids. To prevent keloid formation, it is necessary to wait until the first evidence of hypertrophy is discernible, when one or two suberythema doses will suffice for a permanent cure. After the removal of large keloids by a knife or by endothermy, it would be advisable to administer suberythema doses once every month or every two or three months. In this way a permanent and satisfactory result may be obtained without danger of subsequent dangerous sequelae.

DR. G. H. FOX: When the roentgen-ray treatment of keloids first came into vogue, I saw unfortunate results in about nine out of ten cases; but keloid of the back of the neck usually disappeared under this treatment, and I made up my mind that the roentgen ray is valuable in such cases if in no others. In these cases it seems to have an especially good effect.

MINNESOTA DERMATOLOGICAL SOCIETY

Meeting of Nov. 4, 1925

PAUL O'LEARY, M.D., *Presiding*

HYPERTROPHIC LICHEN PLANUS. Presented by DR. FREEMAN.

JUVENILE WARTS. Presented by DRS. IRVINE and TURNACLIFF.

TERTIARY SYPHILITIC ERYTHEMA. Presented by DR. GAGER.

Mrs. C., aged 40, married, on Jan. 16, 1925, presented herself at the dispensary for treatment. There were large purple erythematous syphilids all over the body. There were syphilitic plaques about the anus. The serum Wassermann reaction was positive. In the interval from that date to the date of presentation the patient had received eleven injections of neo-arsphenamine intravenously in 0.6 Gm. doses, eight intramuscular injections of mercuric salicylate and three intramuscular injections of bismuth salicylate. Some of these plaques had disappeared, but the patient when seen two days before presented a large area of erythema over one shoulder and another area on the forearm. There was no history of syphilis.

The diagnosis was tertiary syphilitic erythema. The lesions consisted of dull red noninfiltrated spots, polycyclic or circinate usually on the trunk or limbs. They were notably rebellious to treatment. They are encountered in long-standing syphilitic cases, often after long treatment.

DISCUSSION

DR. ARMSTRONG: I am inclined to think that the fact the woman is colored has a good deal to do with the peculiar bluish pigmentation.

DR. O'LEARY: The patient reminds me of a colored woman in my service who has shown residual pigmentation of the same type following the involution of a superficial syphilid.

PARAPSORIASIS. Presented by DR. TURNACLIFF.

A man, aged 55, for the past two years had had slightly scaling plaques of smoky yellow, distributed generally over the body and legs. The plaques varied from 2 to 8 cm. in diameter and were slightly pruritic. New plaques continued to appear, while none of the old ones disappeared.

LUPUS VULGARIS TUMIDUS. Presented by GAGER.

K. D., a boy, aged 13, came to the University dispensary and showed a tumor involving the entire tip of the nose. The duration was about three months. This tumor was 3 cm. in diameter, of exceedingly soft consistency and cherry red. On glass pressure the typical apple-jelly nodules were not seen. The serum Wassermann test was negative. The Pirquet reaction was negative. Microscopic section showed a tuberculous structure, epithelioid cells and giant cells.

DISCUSSION

DR. MICHELSON: I have examined this case and have made a microscopic section, and my clinical diagnosis is lupus vulgaris of the hypertrophic form. The microscopic section shows an acute inflammatory zone in the upper portion of the section and typical tuberculoid structure in the lower portion.

DR. O'LEARY: I recall a boy who had a lupus vulgaris of the nose but with less involvement of the mucous membrane. The lesion was made extensive than the one presented. The patient came to the clinic with a diagnosis of frostbite, and we had the opportunity of observing him for some time. The short duration of the lesion on the patient presented does not mitigate the diagnosis.

DR. IRVINE: I had a patient with a case of lupus vulgaris of the nose which I showed at one of the early meetings of this society. The patient was shown after treatment. The condition had cleared up with roentgen-ray treatment and trichloracetic acid. In a comparatively short time after the application of the roentgen ray, most of the lesions were healed.

DR. O'LEARY: I had the opportunity to observe two patients who had undergone complete excision of small patches of lupus vulgaris. In one case the excision was followed by a full thickness graft. In a selected group of patients, with small patches of lupus vulgaris, deep and wide excision offers a rapid means of cure if carried on in conjunction with an antituberculosis regimen.

DR. SWEITZER: I recall a patient from Dakota with lesions on the upper arm whom I saw several years ago. She had been to several of the leading clinics. I advised total excision, but the condition promptly returned. I then used radium, but that did no good. I then used acid nitrate of mercury, and the resulting scarring was scarcely noticeable. The lesions all disappeared. I am not enthusiastic concerning the use of the roentgen ray in tuberculosis. Some of the cases that I have seen have not done well. I had a patient with lupus erythematosus who had been treated with radium several years ago, and the present condition was not good. I have stopped treating these patients with radium. The patient had a large area on the malar bone that never healed. I treated her with acid mercuric nitrate, and the condition scarred over, even after heavy radium dosage.

DR. BUTLER: I believe that it is not possible to get a tuberculous process simulating lupus vulgaris in two months, and I think a careful history of the case will show that this child has had trouble for a longer period, which has not been observed.

DR. MICHELSON: The type of cutaneous reaction that occurs in a patient depends largely on the allergy of the patient and on the anatomic location of the lesion. If the Pirquet test was properly made and was negative, it might indicative that the patient's resistance was very low. In regard to the therapy, I would treat the mucous membrane lesions with radium and the external lesions with the roentgen ray, and would put the patient on a general regimen such as is employed in systemic tuberculosis.

DR. GAGER: After looking at the section, I thought the diagnosis was definitely established, as the section showed the typical tuberculous structure. As to the history, I doubt whether we can take the family's word that the condition has been present only two months. The physician said that the patient became severely sunburned in June; later a pimple developed on the nose which was treated as an infection with various sorts of salves. As to the history of the lesion in the mouth, I do not believe that the family or the physician ever saw the mouth condition; at least the physician who referred the case did not call my attention to it when he brought the patient in. I think that probably the lesion in the mouth is of longer duration. I have no doubt about the conclusiveness of the slides establishing the diagnosis of tuberculosis.

TUBERCULOUS ULCEROSA MILIARIS. Presented by DR. MICHELSON.

A man, aged 44, born in Finland, who had lived in Minnesota for the past ten years, where he was occupied as an iron miner, said that his general health had been good, but that he had gradually lost weight during the past year. The lesions for which he was presented were shallow, granular ulcerations situated on the buccal mucosa and about the gums. The borders were thin and undermined, and the base was very red and bathed in pus. The secretion was examined, but no specific organisms were found. The excision of a bit of tissue showed typical tubercules, many of them with necrotic centers. Roentgen-ray examination of the lungs showed moderately advanced chronic tuberculosis.

DISCUSSION

DR. MICHELSON: This form of tuberculosis is usually secondary to a grave pulmonary tuberculosis. In this particular case, the patient had a quiescent pulmonary tuberculosis which had been diagnosed by stereoscopic plates. Local treatment was usually considered to be of little avail, but in this case the use of acid nitrate of mercury improved the ulceration. Patients nearly always complained of great pain in this condition, but in the presented case, although the ulcers were extensive, there was no pain. A microscopic section was exhibited which showed miliary tuberculosis.

DR. SWEITZER: This condition was extremely interesting to me as I am on the consulting staff of Glen Lake Sanatorium, and I have not seen any patients out there with a mouth like that of the patient presented tonight since I have been going out there. The last one I saw was in Chicago in Dr. Harris' office, the case being similar to the one shown tonight.

LEUKOPLAKIA. Presented by DR. GAGER.

Two weeks ago the patient presented marked leukoplakia of the underlip, limited to the right side, which involved the lip surface as well as the gingival surface. The patient had had treatment for syphilis. He also gave a history of having used Copenhagen snuff for a long period of years. After limiting the use of snuff there was improvement in the lesion.

PITYRIASIS ROSEA INVOLVING THE FACE AND NECK. Presented by DR. TURNACLIFF.

A man, aged 22, came to the syphilitic clinic of the University Dispensary one week before presentation. At that time he presented exudative dark papules in lines of cleavage over the trunk, legs and extensor surfaces of the forearms. In the axilla and on the neck the lesions were diffused and coalescing, with scaling over the whole area so that individual lesions could not be made out. When the case was presented some of the lesions on the body had flattened down and presented the collaret scale.

DR. BUTLER: This is an unusual case; the lesions conform very much to the lesions of pityriasis rosae. However, I think that if one were to view the lesions on the neck alone one might make a diagnosis of erythema multiforme. I am not so sure that the condition is not erythema multiforme.

DR. ARMSTRONG: I believe this is a case of pityriasis rosea. This condition is not as unusual on the face as the textbooks would lead to believe. I have seen a number of cases and I think others have. As far as the condition on the man's neck and face is concerned, it is quite common in pityriasis rosea when it involves the axillae. When there is a great deal of perspiration and moisture, it takes that form. I have never seen it like this on the face.

DR. IRVINE: I would be inclined to a diagnosis of pityriasis rosea from the characteristic lesions on the trunk. I am also inclined to think that the seborrhea might have affected the lesions on the neck. I agree with Dr. Armstrong as to the frequency with which the face is involved in this condition. From 30 to 40 per cent. of patients coming to my office have lesions on the neck and face. I think the condition is not nearly as rare on the face as some textbooks would indicate. Only about two weeks ago I had a patient with characteristic lesions on the body, and there were many more on the face than on the trunk.

DERMATITIS EXFOLIATIVA DUE TO ARSPHENAMINE. Presented by DR. GAGER.

The patient was first seen in the Ophthalmologic Clinic of the Wilder Dispensary on Aug. 26, 1925. A diagnosis was made of paralysis of the left external rectus. The patient had fixed pupils. There was no history of syphilis. The serum, as well as the spinal fluid Wassermann reaction was positive. From Sept. 10 to Oct. 27, 1925, the patient received seven intravenous injections of neo-arsphenamine, 0.6 Gm. at weekly intervals. On Nov. 3 the patient complained of an itching skin, and inspection revealed a generalized erythematous dermatitis. The erythema was particularly marked on the trunk, where it showed a diffuse redness and swelling of the skin. On the arms there were more papular lesions, particularly on the foreams.

DISCUSSION

DR. O'LEARY: There seems to be a doubt in the minds of some as to the value of sodium thiosulphate. I should like to know the experience of the members with it.

DR. SWEITZER: I think it is beneficial, but we have not had any severe cases recently.

DR. GAGER: I have a case in my service at the Ancker Hospital of a woman who came in with macular syphilis. She had been in a hospital some years ago with exfoliative dermatitis, and I think that hospitalization followed injections of mercuric salicylate. We debated the question as to whether to give

the woman neo-arsphenamine. On her assurance that she was willing to try a dose, we gave her a dose at 1 p. m., and at 5 p. m. she had a tremendous generalized erythema, and the next morning had a widespread arsphenamine dermatitis. That was two weeks ago, and the patient is still in poor condition, with lesions over the buttocks and under the armpits; the face has been tremendously swollen, and the lips, mouth and mucous membranes of the nose extremely edematous. I would never again under any circumstances give a patient who had had any sort of drug dermatitis neo-arsphenamine. We have used thiosulphate daily, and, much to my surprise, it has not afforded the relief that I expected. I have had several cases of arsphenamine dermatitis, none of which has been so severe since we started using sodium hyposulphate intravenously.

DR. IRVINE: I have had little occasion to use sodium thiosulphate. One patient who had a generalized arsphenamine dermatitis before she came to us was given mercury several months later, and developed redness on the flexures. Three or four years after the reaction, neo-arsphenamine was tried again. The patient was given about 0.01 Gm., which produced a slight dermatitis, so it indicated to them that even after three or four years one could get a reaction from it. That patient had tolerated bismuth very well. Positive Wassermann reactions continued after the reaction, indicating that the syphilis was not cured.

DR. TURNACLIFF: One of the best ways to avoid an arsphenamine dermatitis is to check up with the patient and find out whether there has been any itching or redness of the flexures of the elbows or on the chest after previous treatment. The history of most cases of arsphenamine dermatitis shows that some itching or redness occurred after one or two injections before the most severe reaction results. Sodium thiosulphate worked out very nicely in the one patient who had had a severe gingivitis due to mercury.

PITYRIASIS ROSEA, ATYPICAL LOCATION. Presented by DR. GAGER.

N. L., a man, aged 26, unmarried, had been seen a few days previously at the Ancker Hospital. He had presented an eruption on the backs of the legs, of three weeks' duration. The eruption did not itch and the patient felt well. On the calves of both legs there was an eruption consisting of macules varying in size from a pinpoint to 2 or 3 cm. in diameter. There was a superficial scaling on the spots. When the scale was scratched off, there was a collaret appearance. Some of the scales had a pronounced silver white color.

DISCUSSION

DR. GAGER: This case is interesting on account of the atypical location. I am inclined to a diagnosis of pityriasis rosea.

DR. BUTLER: I have never seen pityriasis rosea localized to the limbs, although the lesions look like it. It might be a mycotic condition; one does not always find the organism at first.

DR. FREEMAN: I am at a loss to make a diagnosis.

DR. COOK: My guess would be a fungus infection from the location. I have never seen pityriasis rosea on the legs without any other involvement.

DR. SWEITZER: There is no reason why pityriasis rosea could not appear on the legs only. I saw a case not so long ago in which there were lesions on the thighs, and the person shown tonight might have the spots even lower down.

The lesions on the back show some beginning papules, which I think may possibly develop just as those on the legs. I believe this is a case of pityriasis rosea.

DR. ARMSTRONG considered it pityriasis rosea.

A CASE FOR DIAGNOSIS: LEUKEMIA CUTIS, LEPRA TUBEROSA, CHRONIC DERMATITIS. Presented by DR. MICHELSON.

A man, aged 62, born in Sweden, who had lived on a farm in Minnesota for the past thirty years, said that two years ago his entire skin began to itch, and his face had gradually became somewhat thickened and very hard to the touch. He had lost about 30 pounds (13.6 Kg.) in weight during the past year. The face showed thick nodes which were made by deep accentuations of the normal lines of the skin, dividing the thickened tissue into irregular blocks. The body was covered with a macular eruption of a brownish tint and showed many excoriations. Smears from the nasal secretion showed no lepra bacilli. The superficial lymphatics were somewhat enlarged. The hematologist reported the blood to be negative for leukemia of any form. There were no areas of anesthesia and no enlarged nerves. There was a distinct thickening of the superciliary regions with some loss of the eyebrows. The lower lobe of the ear was thickened and did not pit on pressure. Microscopic section of the skin taken from the forehead showed strands of infiltrate in the cutis made up of the single type of large lymphocytes.

DISCUSSION

DR. ARMSTRONG: Chronic dermatitis of this type is not unusual among farmers and those coming in contact with horses.

DR. SWEITZER: This condition is very interesting. It recalls a patient I had several years ago. My diagnosis in Dr. Michelson's case would be between leukemia of the skin and so-called chronic dermatitis that would be classed as a sensitiziation case. It looked a little more like a sensitization case. I have had a patient in the hospital three different times, who has been a teamster, and I think he had a sensitization to horses. The patient's condition would be cleared up, and then he would come back again.

DR. BUTLER: I should like to know whether Dr. Sweitzer's case has ever shown leukemic changes in the blood.

DR. SWEITZER: The patient came back for several years, but he has never shown any leukemic changes in the blood. He died a few years ago, and I wrote to the widow as to the final diagnosis but could get no information. The man had, however, a purely lymphocytic infiltration in the skin and the diagnosis was leukemia cutis.

DR. MICHELSON: When one sees a case presenting leonine facies, one must always consider leukemia cutis, lepra tuberosa and chronic dermatitis. In the presented case no lepra bacilli were found in numerous smears from the nasal mucosa. The blood picture was completely negative, and the smears had been examined by a competent hematologist. The microscopic section showed no leukemic infiltrate, only a chronic inflammatory change. I would, therefore, make a diagnosis of chronic dermatitis.

DR. SWEITZER: If this man had lymphatic infiltration in the skin, I would classify the case as leukemia; if not, I would classify it as a sensitization case.

A Case for Diagnosis. Presented by Dr. Freeman.

A young man, aged 19, said that for a period of years he had had a scaling eruption over the cheeks, that he had used various types of ointments, and that at times the condition had improved, only to recur. At the time of presentation there was a diffuse squamous eruption over the malar eminence, the color was red, and there were some vesicles at the periphery. The diagnosis rested between dermatitis and lupus erythematosus.

DISCUSSION

Dr. Cook: The patient is asthmatic and is taking some patent cure that has cocaine in it. This may be suggestive.

Dr. Armstrong: One cannot make a diagnosis of lupus erythematosus except by excluding all other conditions. I do not know any other condition that it could be, but I feel that I am not making much of a diagnosis.

Dr. Sweitzer: Clinically the condition looks more like lupus erythematosus except that Dr. Freeman, in his desire to do the young man some good, has given him a salve, and the lesions are peeling off. This case brings to mind a patient I showed at the last meeting, who had a case of the congestive type. That patient was at the clinic recently, and the eruption on her face had entirely cleared up, but she still had lesions on the hand where biopsy was performed.

Dr. Michelson: This is a peculiar form of dermatitis, most likely of external origin, and I think that it will clear up with carefully regulated treatment. I do not believe that the condition could be lupus erythematosus, for it has extended so rapidly and has left no structural change.

Dr. Butler: This is an interesting case. It suggests a so-called congestive type of lupus erythematosus.

Dr. Irvine: I should be inclined to agree with Dr. Michelson. From what I have learned of the history, the patient has not had treatment that was worth anything. I thought perhaps the condition was of the seborrheic type, and that with proper care and full cooperation from the patient, one might obtain good results.

Dr. O'Leary: I believe this is the superficial type of lupus erythematosus, the form of lupus erythematosus that frequently voluntarily involutes leaving a superficial and almost imperceptible scar. Foci of infection in teeth, tonsils or prostate are more prominent factors in this form of the disease than the tubercle bacilli. We continue to treat lupus erythematosus disseminatus with deep roentgen ray directed to the gland-bearing areas. It had offered more than any other form of therapy. Several years ago we had the opportunity to perform necropsy on a young woman who had disseminate lupus erythematosus, and we found tuberculous kidneys. We believe that disseminate lupus erythematosus is a toxic erythema due to glandular tuberculosis. It is possible that avian or bovine tubercle bacilli, rather than human, is the cause.

Dr. Armstrong: I had a patient last spring with disseminated lupus erythematosus, and about the last ten days of life the lesions all became moist and wet. Glandular involvement became pronounced. The glands of the neck became so involved that respiration became difficult.

Carcinoma of the Sole. Presented by Dr. Sweitzer.

A woman, aged 58, married, presented a lesion on the sole of the left foot beneath the first metatarsal. About two years ago a callus formed, which soon

became inflamed and enlarged. A small ulcer formed, and a discharge of pus was present necessitating daily dressing. The lesion caused considerable pain. The lesion was about the size of a fifty-cent piece and had a small ulcerated area in the center and hard rolled edges.

Histologic section showed a rapidly growing carcinoma.

D. D. TURNACLIFF, M.D., Secretary.

NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY AND SYPHILIS

Regular Meeting, Nov. 4, 1925

FRED WISE, M.D., *Chairman*

MYOSITIS OSSIFICANS. Presented by DR. ELLER for DR. SHARPE.

A woman, aged 40, married, the mother of two children, presented bony-like subcutaneous, freely movable nodules, varying in size from that of a robin's egg to that of a walnut. These nodules were situated on both buttocks and on the left arm just below the shoulder, and had been present for ten months. There was a history of occasional pain in these lesions. No member of the family had been troubled with similar lesions. In 1923, the patient had had one kidney removed because of a stone and pus, and during the course of this treatment she had received injections to relieve the pain, and also for "tests" presumably to determine the functional activity of the kidney; but no injections were given at the sites of the nodules.

A biopsy and roentgenograms were to be taken and would be reported on at the next meeting.

DISCUSSION

DR. CANNON: I would suggest the diagnosis of dermatomyositis, my only reason for hesitancy being the absence of recurring chills and fever. Dr. Gray showed a case in London in which the subcutaneous nodules were preceded by chills and fever, the swelling becoming red and slightly tender; he reported this case in the *British Journal of Dermatology*. As the patient's temperature returned to normal, the redness and tenderness disappeared, followed in a few weeks by atrophy of the skin and subcutaneous tissue, even of the muscles. It is interesting to note that a similar atrophy existed just beneath the nodular swelling on the outer surface of the right thigh in this case.

DR. SCHEER: The patient said that she had had injections of some sort in the thigh, and it was possible that some sort of mineral oil had been introduced which had produced a condition similar to paraffinoma.

DR. ABRAMOWITZ: I am inclined to agree with Dr. Scheer that it is a paraffin tumor, for that term could be applied to any tumor when a mineral oil had been injected. The only way to determine the diagnosis is to dissect deeply into the mass and examine the tissue microscopically and chemically for evidences of fat. I have never seen a case of dermatomyositis, but I have read of it. The symptoms of that disease are not sufficiently fresh in my mind for me to be able to exclude it.

DR. LEVIN: I am opposed to the diagnosis of myositis ossificans, owing to the fact that there was no pain. In 1913, Oppenheim described a group of cases with lesions occurring in the subcutaneous and deeper tissues following injections. The infiltrations were not the result of injections of paraffin or mineral oil, but soluble drugs like arsenic. A year ago I presented a case showing deep, stony hard nodules, the result of injections of arsenic. The tumor on the arm may have followed an injection.

DR. ANDREWS: I disagree with Dr. Abramowitz. The lesion in the right buttock is a long, narrow, hard structure running from without upward and inward, and feels distinctly like a strand of gluteus maximus which has become ossified. The lesion is slightly tender, and there is a history of occasional pain. Paraffinomas are not of such character, and are usually lumpy, rounded and compressible.

DR. WOLF: Another point that should be brought out is the fact that the patient is developing a new lesion on the left deltoid region. I also have an idea that the condition may be a foreign tumor, that is, of extrinsic origin. As Dr. Levin has pointed out, a new tumor is forming without any history of injections at that site — in other words, it may be an infection of systemic origin.

DR. WISE: I think that roentgen-ray examination should give a definite lead to the diagnosis if there is any bone or cartilage in the lesions. I can give no opinion except in a negative way. I do not think it is paraffinoma — that never has the boardlike feeling that these lesions have. I am inclined to think that a diagnosis of scleroderma, or the one which Dr. Cannon suggested, seems the most probable.

LYMPHANGIECTASIS. Presented by DR. WALZER for DR. LAPOWSKY.

M. N., a woman, aged 48, had had one pregnancy at 18 years of age, but none since. Three years ago, she had an operation for a double tubal infection. All the lesions were confined to the right side.

In the center of the abdomen, extending from the umbilicus to the pubis was the scar resulting from operation. On the lower part of the abdomen, vulva, and inner side of the thighs were lesions of tinea cruris. From under the right breast to the edge of the ribs there was an irregular violaceous band, which on palpation felt irregular and shotty, like knotted rope under the skin. On the side of the abdomen there were a number of similar bands radiating to the groin, covered with pigmented skin varying in color from violaceous to brown. On the lower part of the abdomen, extending from the umbilicus to the pubis, there was a large doughy, tumorlike mass over which the skin appeared in ridges. The skin markings were pronounced, and the follicular openings were large. Palpation gave the sensation of cords under the skin. Running over both sides of the abdomen appeared the linear atrophy of pregnancy. On puncture of the skin, clear white thick fluid oozed. On the right hip were transverse bands similar to the others but not pigmented in the lower part of the hip. The scars on the left leg and thighs were remains of past varicose ulcers. On the right leg were large varicose veins. The patient had had seven attacks of phlebitis, the last attack about eight years before operation.

DISCUSSION

DR. ABRAMOWITZ: It is an unusual case; in fact, the first I have seen in which the lymph stasis seemed to be confined to the abdomen, it is usually

seen in the lower extremities. In this instance, the woman had varicose veins with a history of phlebitis, and yet there was not much affection of the lower extremities. In addition, she had many striae atrophicae, and most of the red strands of the thickened lymphatic vessels seemed to be along those striae. The diagnosis presented should be accepted, for the picture of the thickened bands, according to the history, yielded nothing but lymph.

DR. LEVIN: In view of the presence of bands of violaceous hue and infiltrations on the abdomen, I would offer the diagnosis of scleroderma. There was also a large lesion on the left arm.

DR. ANDREWS: As I understand it, scleroderma is a hidebound condition of the skin; in scleroderma, the derma is attached to the subcutaneous tissue by fibrous tissue so that the skin cannot be puckered, wrinkled, or moved without moving the underlying structures. In this case, no such condition was present, but rather a subcutaneous thickening to which the skin was not adherent and over which it could be moved, wrinkled, and puckered at will. I agree with the diagnosis of lymphangiectasis.

DR. WALZER: The disease is not in the skin, but below. The knotted-rope-like feeling was due to the distended lymph channels. Whatever prevents the normal flow of lymph from a part creates such an accumulation in the vessels of the region involved as to distend the vessel walls and by internal pressure to cause an osmosis of the lymph into the surrounding tissues. If the obstruction continues, the distention persists and the vessels become stretched into cylinders, giving the feeling of knotted cords under the skin. This was practically what happened in this case. It was not an elephantiasis yet, as had been suggested, but would possibly lead to it. In elephantiasis, the lymph condition is overshadowed by a chronic productive inflammation, with increase in the connective tissue, producing hypertrophy of the part affected.

Gynecologically, there is nothing wrong at present. She has phlebitis of the legs.

The condition apparently is of only three weeks' duration. Until two days ago, it was limited to the right side, but now the left side also shows involvement.

DR. SATENSTEIN: This is the second case of the kind that I have seen, the first having been reported by Dr. Gottheil in 1908 under the name of pseudo-xanthomatous lymphangioma. The case was studied thoroughly and was considered a pure lymphangioma, with some degeneration of the elastic tissue. There does not seem to be any lymphedema in the case under discussion. As Dr. Walzer said, it seems to be a lymphangioma, very superficial and possibly connected with a chronic inflammatory process.

DR. ABRAMOWITZ: What line of treatment is proposed?

DR. WALZER: This has not been decided, as the patient has been seen only twice.

DR. ABRAMOWITZ: What happened when the skin was punctured?

DR. WALZER: The lymph just oozed out in a few drops and the puncture then closed up.

DR. ABRAMOWITZ: I should advise the use of Southey's tubes, as formerly employed in chronic edema of the legs occurring in heart and kidney disease. That method of treatment might give some relief.

PAPULAR TUBERCULID. Presented by DR. WALZER for DR. LAPOWSKI.

I. H., a man, aged 34, a collector, eighteen years previously had a urethral discharge lasting two weeks; there were no genital ulcers. He had been married nine years and had three children, all living and well. The trouble for which he was presented was of two months' duration. The extremities, the whole trunk, and the buttocks were involved. The primary lesion consisted of a tiny pinhead-sized, follicular, pinkish-red elevation. This papule gradually increased in width to the size of a pea, became flatter, not elevated, bright red, with a sharp border. It was surmounted with scales, which in certain locations were suggestive of the silvery scales of psoriasis, but they could not be removed with punctate hemorrhage. If the process ended here, it soon flattened out and disappeared, leaving a pigmented patch with a suggestion of a scar; if, however, the process advanced, necrosis took place within the center, as in a tuberculid, with formation of a scab, and on healing it left a pea-sized depressed scar with surrounding pigmentation. All these stages of development could be seen. The mucous membranes were clean. The physical and all other examinations were negative.

DISCUSSION

DR. ANDREWS: I agree with the diagnosis. The unusual feature of the case is the short duration.

DR. ELLER: The lesions look like those of a papulo-necrotic tuberculid, but the patient gave a history of having taken potassium iodide, followed shortly by the eruption, so that possibly a drug eruption should be considered.

DR. SCHEER: It is strange that in this patient with such a widespread eruption the typical tuberculid lesions should be so few, though undoubtedly there are some typical ones. The history obtained by Dr. Eller is interesting, and his suggestion should be taken into consideration.

DR. WALZER: The patient was first seen about two months previously. He then had a profuse eruption that looked like varicella and again like tuberculid. He had not been sick previously, nor was there any history of taking drugs. He is now almost well. There is no question of the tuberculid type of lesion. In 1923, Guy (Arch. Dermat. & Syph. **8**:754, 1923) reported two cases of papulonecrotic tuberculids in women. Both cases were negative for tuberculosis in every way — physical examination, roentgen ray, tuberculin tests, microscopic sections and animal inoculation; both were associated with enteroptosis and intestinal stasis; one patient also had chronic arthritis. Guy took cultures from the feces in these cases, and besides the ordinary intestinal organisms he found *Streptococcus viridans, Streptococcus hemolyticus,* and *Bacillus pseudodiphthericus.* He injected pure cultures of these organisms into patients having papulonecrotic tuberculid, and obtained lesions clinically like the papulonecrotic tuberculids. In control cases, he obtained no such reactions. His conclusion was that in certain cases papulonecrotic lesions are the result of a dissemination of a variety of feebly pathogenic organisms from different foci of infection. I believe this is a similar case.

DR. SIMPSON: If this case corresponds to the type of tuberculid follicles, which in my opinion it does, the duration of three months would not stand against the diagnosis. This type of papulonecrotic tuberculid might be acute compared to other tuberculid lesions.

DR. WISE: I agree with Dr. Simpson that the duration of two or three months does not speak against the diagnosis and that one may have an acute attack of papulonecrotic tuberculids; I have seen cases in which lesions broke out for two or three days and soon disappeared. Lewandowski said that if one could examine all cases of papulonecrotic tuberculids in the early stages, one would often find tuberculous structures. This is true especially in the papulonecrotic tuberculids of infants. In the case presented, much information could be gained from a biopsy, especially from a fresh lesion.

DR. CANNON: I believe that every papulonecrotic tuberculid is really a tuberculosis of the skin, and that the reason tubercle bacilli are not more frequently isolated from the lesions is that the smears taken for the bacilli and the section for guinea-pig inoculation are not obtained at the proper moment. The chances of isolating the tubercle bacillus are much better when the lesion is an early stage. I have seen bacilli in stained scrapings taken from an early papulonecrotic tuberculid in an infant. The lesion, however, showed only simple inflammatory tissue.

PEMPHIGUS. Presented by DR. WALZER for DR. LAPOWSKI.

S. R., a tailor, aged 41, said that the disease began about six months previously with lesions under the axillae which would easily rub off, leaving moist surfaces. Next, the chest and umbilicus were similarly affected. The patient had not felt any ill effects from the disease.

The extremities and face were free; over the trunk were scattered numerous pea-sized to penny-sized flaccid bullae, which could easily be rubbed off. Some were still intact; others were crusted and some broken; they had no erythematous halo. Nikolski's sign was not present. In the right axilla, the lesions were practically the same as those over the body, with some secondary follicular infections. In the left axilla there were large erythematous patches. The umbilicus showed impetiginous bullae. The scalp and mucous membranes were free from any lesions.

DISCUSSION

DR. SCHEER: The case is fairly typical, showing the usual lesions.

DR. LEVIN: The only unusual feature is the absence of lesions in the mouth.

DR. WISE: I think the only unusual feature is the benignity—just the opposite course of the usual course. It is like the kind the late Dr. Trimble spoke of as beginning like seborrheic eczema and then suddenly breaking out in blisters. It is a benign pemphigus, similar to the instances recently published by Senear in the ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY.

LYMPHANGIOMA CIRCUMSCRIPTUM. Presented by DR. WALZER for DR. LAPOWSKI.

P. C., a boy, aged 13, whose condition began about six years ago, had a lesion in the center of the left arm which consisted of an elongated patch. It had gradually increased in size. The primary lesions were tiny, thick-walled vesicles, varying in color from white to pinkish. Some were hemorrhagic. Some were dried and had a warty appearance. The lesions were firm, thick-walled, not easily ruptured, and occurred either discretely or in patches. Underneath these lesions there was a tumor-like mass which could be easily felt and which apparently was composed of dilated lymph vessels.

DISCUSSION

DR. WISE: I agree with the diagnosis.

DR. WALZER: This condition also was a lymph vessel anomaly. The tiny thick-walled vessels contained lymph. The verrucous-like lesions were all closely grouped, tiny vesicles. The enlarged lymphatic vessels could be felt underneath the vesicular lesions.

LICHEN PLANUS BULLOSUM. Presented by DR. BECHET.

W. V., a man, aged 68, from Dr. Aitken's service, said that the lesions had been present for two months. The forearms, trunk, and legs were extensively covered with violaceous-red, shiny papules, some of which had grouped, forming small aggregated areas. There were lesions in the mucous membrane of the mouth. The case was typical of an extensive acute lichen planus. Of particular interest, however, was the presence of small blebs or bullae, varying in size from that of a pinhead to that of a large lentil. These bullous lesions were especially frequent on the arms and legs.

PAPULONECROTIC TUBERCULID. Presented by DR. WALZER for DR. LAPOWSKI.

Mrs. S. G., a housewife, aged 30, said that the trouble from which she was suffering dated back about three years. The lesions first appeared on the elbows, and in the last three months had spread to the forearms and hands. The patient and a sister were the remaining members of a family of fourteen, twelve having died from various causes, one of pulmonary tuberculosis.

On the dorsum of both forearms, from the elbows to the wrists and on the backs of both hands were numerous scattered papulotubercles, pea-sized, infiltrated, red and sharply outlined; they felt shotty. Some were surmounted with a crust which on removal showed a necrotic center. Intermingled with these papules were many pea-sized, red, depressed scars, single and conglomerated, the remains of papular lesions. The hands and feet were blue and cold. The general physical examination and roentgen-ray examination of the chest were negative for tuberculosis.

HANSEN'S DISEASE. Presented by DR. ANDREWS.

N. R., (from the department of dermatology and syphilology, Vanderbilt Clinic), a man, aged 40, a native of the British West Indies, had a condition that began a year previously with pain and swelling in the tendo achilles and heel, followed by numbness in the ankles. In the spring of 1925, his hands became swollen and red, with pins and needles sensation in the hands, which felt heavy and stiff. Eruptions appeared on the right knee, thigh and elbow about a year before presentation. The man's general health was good; he had never suffered from chills or fever. He had been married for sixteen years; his wife was well, and he had three children, all well. He had been living in this country for twelve years, and had worked as a janitor for the past seven years.

The lesions appeared on the extremities and face, most marked on the right lower extremity and the outer surfaces of the arms and hands. The hands were swollen, red and dusky, with several atrophic areas on the back of the right hand. Over the left elbow was a sharply defined, moon-shaped, raised, brownish-red soft lesion measuring 2½ by ¾ inches (6.2 by 1.9 cm.) in diameter. There were similar lesions on the right knee and around the ankles. A brownish-red, macular condition extended from the anterior and middle third of the thighs down; there was also a macular condition on the forearms. On the cheeks there were a few erythematous papules. The Wassermann test was negative

PHILADELPHIA DERMATOLOGICAL SOCIETY

Regular Meeting, Nov. 9, 1925

JOHN F. STOKES, M.D., *Presiding*

RECURRENT TERTIARY SYPHILIS. Presented by DR. WEIDMAN for DR. WHITE.

Mrs. N. B., aged 60, housewife, was exhibited before this society one year ago with a diagnosis of parapsoriasis lichenoides. At a second observation in August, 1925, the eruption was the same recurrent lichenoid, papular type, over the arms, legs and back, associated with moderate itching. She was treated with potassium iodide and liquor carbonis detergens. Two months later the eruption was nodular, annular or segmental; withal, rather abundant for a late syphilitic manifestation. A Wassermann test was strongly positive. The patient was placed on antisyphilitic therapy — small doses of neo-arsphenamine, with subsequent involution of the lesions. Biopsy indicated a granuloma, but a definite diagnosis between tuberculosis and syphilis could not be made from the material examined.

DISCUSSION

DR. STOKES: The basis of the diagnosis were the induration and the presence of definite, though atrophic, scarring. The dosage of neo-arsphenamine was small, because the blood urea nitrogen was rather high.

RINGWORM OF THE SCALP OCCURRING IN AN ADULT. Presented by DR. WEIDMAN for DR. CHAMBERS.

B. Z., a woman, aged 18, a student at the University of Pennsylvania, for two years had had a patch of alopecia on the scalp. The appearance was typical of ringworm. The characteristics of the patch would indicate that there might be some permanent scarring after the disease has been corrected. In reality this was ringworm, occurring at an advanced age. No other members of the family had a similar condition. *Achorion trichophyton-violaceum* was isolated in culture.

DISCUSSION

DR. GREENBAUM: I have found *Trichophyton violaceum* in the scalps of children, it being the third most common found in Philadelphia. The difference between *Trichophyton violaceum* and *Achorion violaceum* is not clearcut culturally, the diagnosis resting on the appearance of the hair. The appearance in the case presented would suggest Favus.

DR. WEIDMAN: Is it advisable to allow the student to continue in school? She has an organism which has the capacity of producing damage to the scalp in a girl of 18. While neither ringworm nor favus is easily transmissible, we never know who is going to be in contact with the patient, and whether or not such persons will be susceptible. I consider the relation of the patient to the other students in the University is as the relation of students in the public schools of the city, and if children are kept out of school because of ringworm or favus, the same ruling should apply in this case.

DR. GREENBAUM: Some difference should be made in this case, as the girl is intelligent and an adult, and fairly rapid results are being obtained in treatment.

DR. HIRSCHLER: I see no reason why the patient should not continue, provided she wears a close fitting cap, and keeps the scalp well greased. I agree with Dr. Weidman as to the infectivity of the condition.

DR. WEIDMAN: Such a condition is not always easy to treat—sometimes many months pass before the patient is free from it; at times the disease may be very much hidden. The immigration authorities sweat the scalp to bring to light patches which are mildly affected and virtually hidden. I wish to reiterate that there is danger in allowing the patient to come in contact with other students, unless there is an absolute guarantee that the patient will at all times follow instructions as to precautions against spreading the infection. The welfare of the other students should come before the desires of one infected patient.

DR. GREENBAUM: I think that the infection in the case presented has been present for many years; I doubt the history of a duration of only two years. I have never seen such a case develop after the age of 15 years.

DR. WEIDMAN: This is the first case of ringworm of the scalp in an adult that I have seen. I agree that the history of a duration of two years must be doubted.

DR. STOKES: Concerning contagion of ringworm of the scalp, I consider the element of personal susceptibility extremely important. We are all constantly exposed to ringworm infections of the scalp, which are admittedly rare in adults. If the girl is excluded from college, what steps would be taken to prevent her spreading the infection among others, for instance, in offices? I think that she should be allowed to continue in the university if she takes the proper precautions.

PSEUDOXANTHOMA ELASTICUM ATTENDED BY CALCIFICATION OF THE EPIDERM. Presented by DR. WEIDMAN.

W. C., a man, aged 72, Irish, showed the typical pale yellow plaques on the neck and forehead. In sections, this elastic tissue was demonstrated with a fatty degeneration of tissue, as brought out by frozen sections and sudan III stain. There were tubercles in the skin sections from the hand and in the lungs, according to the roentgen-ray diagnosis.

The right hand was amputated a year previously on account of an osteomyelitis, and the epidermis in the old preserved specimen was calcified. There was also calcification of the epithelium of the sweat ducts and glands, of the pacinian corpuscles and nerve trunks, of giant cells and other parts of the tubercles and of certain isolated foci of collagen. As there were no regressive changes, such as the fibrosis and necrosis that are seen in scleroderma, the presentor regarded the process as calcereous metastasis. These features of pseudoxanthomas were not exhibited in the hand.

The blood counts, as well as the blood chemistry, showed nothing abnormal except a slight increase in uric acid and cholesterol. The calcium figures were normal. Roentgen-ray examination of the bones showed a marked rarefaction of the bones of the arms and legs, which bore out the suspicion of calcareous metastasis when taken in conjunction with the history of a severe bone destruction. Histologic sections of a metacarpal bone showed marked resorption of the mineral parts and replacement by fat.

This was probably the first instance in which a calcareous change had been described in the epithelial structures of the skin. It had probably been overlooked in the other cases of calcareous metastasis.

It was also demonstrated how the calcareous foci in the corium could be made visible (in excised skin) to the naked eye, by the Spaltholtz method of clearing with wintergreen oil.

NOTE.—Further investigation of skin from the necks of senile necropsy subjects convinces the presenter that the condition of this patient should be considered a senile elastosis and not pseudoxanthoma elasticum as at first presented.

SENILE ELASTOSIS IN THE SKIN OF THE NECK. Presented by DR. WEIDMAN.

A piece of skin from the neck, together with histologic sections, were presented. They came from an old man dying with pulmonary tuberculosis, and the material was taken in connection with a study of skin from the neck. Of six senile skins thus examined, all showed a definite increase of elastic tissue. Only one, however, showed it to the degree and in the circuscribed form of pseudoxanthoma elasticum. The skin showed the typical yellowish-white plaques of pseudoxanthoma elasticum, and the histologic sections were likewise typical. In the latter, the elastic tissue had undergone slight fatty degeneration. There is a definite difference between the elastasis of senile skin and pseudoxanthoma elasticum; in the former, fibers are not gigantically swollen and the region of elastosis is not sharply circumscribed. In view of the reputed rarity of pseudoxanthoma elasticum, it is significant that of six attempts to find the disease, only one was successful.

URTICARIA. Presented by DR. SCHILDKRAUT.

A. B., a woman, aged 18, for four years had had urticaria on the slightest exertion, excitement or exercise. She was presented for suggestions as to therapy. She had received calcium chloride and sedatives, atropine and ovarian extract. Thorough elimination and intestinal antiseptics had been used. Only two foods would cause the urticaria: onions and raw apples.

DISCUSSION

DR. STOKES: Autohemotherapy might be tried.

ACANTHOSIS NIGRICANS. Presented by DR. CORSON.

C. G., a man, aged 59, a Frenchman, formerly a taxi driver, gave no history of serious illness until eighteen months before presentation, when he noticed that the skin of the tips of his fingers became scaly and cracked. Some months later, the eruption spread to the trunk and legs. There was a certain amount of itching. During the last ten days, medical examinations had been made, with negative findings. Gastro-intestinal studies were negative. The disease, when first seen, consisted of a generalized eczematoid eruption of erythemato-squamous type, associated with pigmentary and verrucous characteristics in the axilla and the gluteal creases. There was nothing notable in the mouth. Biopsy showed marked acanthosis.

DISCUSSION

DR. WRIGHT: The diagnosis lies between acanthosis nigricans and arsenical dermatitis, although the history would tend to rule out the arsenical dermatitis. An acanthosis nigricans progressing with this rapidity would indicate that possibly there are further medical findings not yet reported, probably visceral carcinoma.

DR. STOKES: I would suggest pseudo-acanthosis nigricans, produced by the prolonged ingestion of phenolphthalein. I agree that in such an advanced case of acanthosis nigricans, as the one presented, the patient should be an ailing man.

DR. GREENBAUM: There is a benign type of acanthosis nigricans, a case of which was presented to the society some time ago.

ARSENICAL HYPERKERATOSIS RESULTING FROM TREATMENT FOR PEMPHIGUS. Presented by DR. WEIDMAN for DR. WHITE.

J. S., male, aged 68, developed bullae in November, 1924. He had one month of the Davis treatment, beginning May 24, 1925, without improvement. He was then placed on Asiatic pills (arsenic gr. 1/6), two a day. On August 11, he began a course of 40 days of the Davis treatment, with some improvement noted. He received daily, 1 grain of iron cacodylate for 40 days. The hyperkeratosis of the palms began 10 days ago. He also has a leukoplakia in the mouth.

CARROLL S. WRIGHT, M.D., Secretary.

BROOKLYN DERMATOLOGICAL SOCIETY

Regular Meeting, Nov. 16, 1925

JOHN C. GRAHAM, M.D., *Vice-President, Presiding*

LUPUS ERYTHEMATOSUS. Presented by DR. ABRAMOWITZ (from the Vanderbilt Clinic).

Max G., fruit dealer, aged 38, born in Russia, who had been in the United States for twenty-four years, had a condition that was of three years' duration. At the beginning, the vermilion border of the upper lip became red and was covered with many very fine scales. At this presentation a sharply defined patch about the size of a quarter was present on the upper lip near the right nostril. There was no atrophy as yet. The follicular openings were unusually prominent. The scaling on the upper lip was marked, and there was some semblance of atrophy. There were a few pinpoint, scaly, bright red spots on the soft palate. The patient was otherwise in excellent health.

DISCUSSION

DR. ABRAMOWITZ: The eruption was in a rather atypical location. The lesion on the hairy portion of the upper lip, on superficial examination, looked very much like sycosis vulgaris. However, in sycosis vulgaris, the mucous membrane was not involved as was the case in this patient. Long duration favored the diagnosis of lupus erythematosus more than anything else.

DR. CHARGIN: It is not unusual to see lesions of lupus erythematosus on the mucous membrane of the upper lip, but it is rarely observed on that part of the lip adjacent to the nostrils.

DR. ABRAMOWITZ: This patient presents a problem as to the treatment, owing to the involvement of the mucous membrane of the upper lip. I think that the discoid lesion on the upper lip could be handled better with carbon dioxide snow than with the ultraviolet ray. Trichloracetic acid might be tried on the mucous surface of the lip.

SCLERODERMA AND SCLERODACTYLIA. Presented by DR. A. WALZER.

S. D., a woman, aged 27, married, had had four children. There were no still-births or abortions. She had had "stomach trouble" for the last ten years; she also had had a number of attacks of influenza. Her present trouble dated back two years. It began with ulcerations of the middle finger of the left hand, which took about one year to heal. Gradually all the fingers became bluish and slightly painful. The condition was worse in winter, at which time the hands would become blue, then red, but never white. The slightest exposure to cold would cause these changes to occur, and she experienced a slight tingling pain in the hands. Last winter, about ten months ago, slight ulcerations developed on the left index, right index and right middle finger. Healing was very slow. For the last six months, the fingers had been getting rather stiff and tight. The condition of the face was only of a few months' duration. Her feet were always cold and blue. At this presentation the condition was as follows: The hands were dark red and at times almost violaceous. The fingers were cold, stiff, and tapering, and the skin over them was tight. The flexion was slow. Scars were present on the tip of the index fingers and on the right middle finger. The skin on the forearms felt tight, indurated and smooth, and at times a red color was present. The skin of the face was tight, smooth, indurated and not freely movable over the underlying tissues. The normal facial markings were smoothed out, the face looked shiny and somewhat fixed. Her mouth was smaller than it was originally, and she complained that she could not open it as much as previously. The left scapular region showed similar changes of the skin. The feet were bluish and cold, and the radial, tibial and dorsalis pedis arteries were all pulsating. Urine, Wassermann and physical examinations were all negative.

DISCUSSION

DR. WALZER: The question originally arose whether or not it was a case of Raynaud's disease, but the patient presented none of the symptoms usually present in this condition. Her hands never became white. They became blue when cold and red when warm. She was given two injections of neo-arsphenamine and claimed that she improved as a result, but Dr. Walzer did not think so. He would like suggestions as to treatment.

DR. CHARGIN: The patient has a typical scleroderma of the forearms and face. I do not think Raynaud's disease needs to be considered in the case; certainly not at this stage. I cannot understand why Dr. Walzer is administering neo-arsphenamine to this patient when arsenic is assumed to be the cause of this disease in some cases. The chief cause of this disease is assumed to be some endocrine disturbance, and therefore it should be treated from this standpoint. I have seen good results in these cases from the administration of pituitary or thyroid extract. I certainly would not give the patient arsenic, even though it has not been definitely established that arsenic affects this disease adversely.

DR. ABRAMOWITZ: I do not understand why Dr. Walzer considered Raynaud's disease. Last summer the difficulty of making a differential clinical diagnosis in such cases was forcibly called to my attention when I saw a patient with scleroderma and ulceration of the fingers. There were in addition, atrophic spots on the elbows, tips of the nose and ears. More than half a dozen dermatologists and internists could not agree as to whether the patient had Raynaud's disease or scleroderma complicated with ulceration and gangrene.

For a more definite diagnosis of the disease of Dr. Walzer's patient, the history will have to be relied on. Did or did not the patient have a localized asphyxia of the fingers in cold weather? If she did, the condition would be Raynaud's disease; and if not, it would be scleroderma. The textbooks said that in scleroderma, gangrene or ulceration might be present. They also stated that in Raynaud's disease there might also be a scleroderma. In this particular instance, there was no history of any partial asphyxia in cold weather. She had the characteristic hidebound condition of the skin of the fingers. She also had scars from previous ulcerations, and therefore I would favor a diagnosis of scleroderma. The majority of dermatologists favored endocrine dysfunction as the cause of this condition. A few cases had been proved to be due to arsenic. Now and then a case was reported in which the history of congenital syphilis was obtained, and in such cases there was an improvement on the administration of arsphenamine.

DR. CHARGIN: I wish to emphasize the fact that I made the statement that in *this* case there was no difficulty, in my opinion, in making a diagnosis of scleroderma.

DR. WALZER: Raynaud's disease can easily be excluded. The color of the hands was first red, then blue, but never white. The skin was hard and indurated. There was no sensory disturbance. The pain was slight. Also the involvement of the face and other parts spoke in favor of scleroderma. As to the method of treatment that was adopted in this case: The patient was receiving neo-arsphenamine as a general tonic, not for syphilis, as there was nothing in this case to suggest syphilis. The question of the relation of arsenic to scleroderma was first brought up by Ayers in 1920 and 1921. He reported five cases in which he showed the presence of arsenic in the urine. While he did not claim that arsenic was the cause of the scleroderma, he put that forward as a possible suggestion that there might be some connection between the intake of arsenic and this disease. When one considered the amount of arsenic that had been used in dermatology for so many years, it is surprising that scleroderma was never observed following the use of this drug. Again it had been shown that arsenic was present often in the urine of apparently normal patients, that it was probably due to the foods and drugs taken, and usually meant nothing abnormal. Cures of scleroderma had been reported by almost every conceivable method of treatment — drugs, endocrine, roentgen-ray, etc. — and Dr. Walzer believed that many patients became well without treatment.

MULTIPLE NEVI (VASCULAR, PIGMENTED AND VERRUCOUS). Presented by DR. BEST.

W. B., a schoolboy, aged 16, about ten years before presentation developed a few moles on his chest. Up to August, 1924, he had developed about a dozen lesions. At this time one in the left axilla, about the size of a dime, was removed surgically. Since then numerous lesions had developed all over the body. The lesions seemed to start as red, pinhead-sized spots which grew larger, in about eight or ten months became black, and then after a few months more became wartlike. After they turned black and wartlike, they remained constant in size. There had been no ulceration of any of the lesions. The patient presented no subjective symptoms. With the exception of diseases of childhood, the patient always had enjoyed good health. The family history was negative. At this presentation the patient showed on the chest, back, face, upper and lower extremities, many discrete scattered nevi, varying in size from

that of a pinhead to that of a dime. Some were only small red pinpoint spots in the skin, and from these they varied to larger red, elevated lesions, brownish to black lesions of various sizes, and large verrucous black lesions varying in size from that of a split pea to that of a dime. Three lesions had been removed: a small, nonelevated, red lesion, a slightly elevated, brownish lesion and a small verrucous lesion. The pathology in all three was essentially the same, i. e., angiomatous, except in the latter two in which there seemed to be deposits of melanin. The epidermis in places projected markedly, and beneath the rete, situated in the corium, were circumscribed cystic spaces, filled with blood. Beneath these areas, and projecting into the subcutaneous tissue, were areas containing numerous small capillary vessels, some filled with blood and some empty. The Wassermann test was negative and the blood normal.

DISCUSSION

DR. BEST: The most interesting feature of this case is the fact that there are three distinct types of nevi in the same person, one apparently developing from the other. The patient also said that two of the lesions had fallen off without any interference. The presenter would like suggestions as to the possibility of the beginning of a malignancy if removed.

DR. GRAHAM: I saw this case when the lesion was excised. At that time the lesions had a different appearance. They seemed more active. At this presentation many of the verrucous lesions seem to be more desiccated. The patient's statement of the long duration of the lesions militates against the diagnosis of melanosarcoma, but the increase in size and number of the lesions reinforces this diagnosis. The pathologist at the time of excision said that the pigment was merely broken-down blood cells, and not true melanotic pigment. Any interference with the lesions may start a true malignancy.

DR. ABRAMOWITZ: Evidently the lesions in this case started as angiomas, and it is not usual for melanomas to develop from angiomas. Irrespective of the fact that the boy has had one lesion removed and irrespective of the fact that the spots are increasing since the removal, I believe the growths are benign. I am not convinced that these lesions are either nevi or melanomas. Under the microscope it is evident that the patient has a vascular tumor. There are so many red blood cells present that it is easy to see that the pigment is not melanin but blood pigment. I do not think the question of epithelioma arises. In the removal of similar lesions, I have seen angiosarcoma develop, and I think this might occur in the present case. As to treatment, I should not advise no treatment, but I should not use any of the methods which Dr. Best has suggested. I recommend radium.

DR. WALZER: I believe these lesions are disseminated melanotic tumors caused by the removal of one of them. The original lesion may have been an angioma, but those now present appear to be melanotic. I have never seen angiomas develop melanin. Usually when melanotic cells are disturbed, they are able to develop pigment, and give rise to cells of their own kind. This might develop at the site of the tumor, or after migration elsewhere in the body. They may be quiescent for a time, but are more or less prone to undergo malignancy. Under these conditions it would be best to let them alone.

DR. HECHT: The possibility of malignancy must be considered, and that the condition may not improve with treatment. I should advise no treatment.

DR. HOWES: The most interesting thing about this case is the fact that the disease seems self-limiting, none of the verrucous lesions being larger than

a dime and several having fallen off leaving a small scar. It may be interesting to see a section of such a scar.

Dr. Best: I saw the patient for the first time in August, and at that time I thought the condition should be let alone. Later, when the patient reported that one of the lesions had fallen off of its own accord, I became convinced that there was no malignancy, and therefore I decided that no serious risk would be incurred if the lesions were removed completely. I therefore removed the one on the arm which was interfering with the patient's movements, and one from the shoulder with a "radio" knife. The patient was anxious to have them removed from the face; the suggestion of the use of radium is a good one I shall watch the result from the use of radium before proceeding with excision, fulguration, electrolysis or carbon dioxide snow.

A Case for Diagnosis. Presented by Dr. Walzer.

M. W., a woman, aged 40, married, had had nine pregnancies; the first, second, and fifth children were alive and well, but the others were all full-term dead-born. She had had scarlet fever in her childhood, but there was no venereal history. Because of the still-births she had had four Wassermann tests, the last two years before presentation. All were negative. During her seventh pregnancy, she was given about five intravenous injections, but her pregnancy terminated in still-birth. She received no further treatments of any kind, and her last two pregnancies terminated at full term in still-births. Her present condition was of two years' duration. It began as a tiny, slightly itchy spot on her cheek, which gradually spread. She did not know the duration of the lesion on her forehead. She had had sores in her mouth for the last two years, noticeable especially after she had eaten spicy foods. On the left cheek she presented a dollar-sized, erythematous, slightly infiltrated plaque, plus a slight telangiectasia. At the upper outer part of the plaque, and lower-inner part were two dime-sized patches, which were covered with adherent scales. The removal of these scales showed large, follicular openings. At the mucocutaneous margin of the lips there was a white line about one-fourth inch (0.6 cm.) in width, extending all the way across. This was rough and covered with a thin scale. Tiny scars were present on both lips. On each posterior lateral margin of the tongue, there was a whitish band about one fourth inch wide. This was not infiltrated. Along the borders of this band there were tiny white papillae. On the right margin of the tongue near the tip there were two ulcerations. The posterior one was pea-sized and deep, and the anterior one was larger, more superficial, with a sharp border, and pink. Within the left ear, there were lesions similar to those appearing on the face.

DISCUSSION

Dr. Abramowitz: The appearance of the plugs and the patch on the left cheek alone suggest folliculitis ulerythematosa reticulata, which McKee described several years ago. In his case the lesions were confined to the cheeks. There was no activity except the appearance of the small plugs, and when these fell out, small pin-point depressions were left arranged in a network. However, in this case the patch on the left cheek together with the patches on the tongue and lips, plus the patient's history, all contribute to a diagnosis of lupus erythematosus.

Dr. Chargin: I agree with Dr. Abramowitz; the entire case is one of lupus erythematosus. The only thing against this diagnosis is the fact that the patient has had this condition for two years and there is no atrophy. How-

ever, even this is observed at times in lupus erythematosus. While there are not very many scales to be seen on the lesion on the cheek, the one in the ear shows scales, and this diagnosis is further favored by the fact that the patient presents lesions on the lips which seem to be typical of lupus erythematosus.

DR. WALZER: When I saw the case originally, I thought it was lupus erythematosus. However, this eruption should have left atrophies after a duration of two years; and the patient shows none. Also, lupus erythematosus usually does not begin in small pinpoint follicular plugs as is the case here. I think the fact that the eruption, beginning as small follicular processes with plugs, no erythema or slight erythema and no atrophy, militates against the diagnosis of lupus erythematosus. Syphilis might be considered. The patient gave a history which often is indicative of syphilis. But, would lupus erythematosus in a syphilitic person produce such a picture? Is the condition altogether syphilitic, in some atypical form? The lesions of the lips and tongue are suggestive of those of lupus erythematosus, but those on the face are not.

GENERALIZED NEURODERMATITIS? MYCOSIS FUNGOIDES? Presented by DR. ABRAMOWITZ.

Leo S., aged 31, born in Russia, a machinist, who had been in the United States for fourteen years, had been married for two years but had no children. He was a tall, well built man and had never been ill. Three years before presentation, without any apparent reason, he began to have itching all over the body, which in six months developed into an eruption over his trunk and extremities. With slight periods of remission, he had remained as presented at the meeting. At times he had been much worse. With the exception of a few seborrheic-like patches on his eyelids and temples, his face and scalp were not involved. The rest of the body showed a thickened and dry skin, which, owing to the many shiny, deep red, papular lesions, gave a similar color to the entire skin. In addition there were many almond-sized nodular lesions, especially on the neck and trunk. There was a marked tendency to scaling, which the patient kept down to a minimum by anointing himself with petrolatum. Numerous scratch marks from severe itching were also present. He had been under observation by several dermatologists, and a biopsy had been taken by one, with the report that there was no sign of mycosis. The regional glands were slightly enlarged. The blood picture was normal. The urine was normal, and the Wassermann test was said to be negative. He had a slight systolic murmur when presented and a temperature of 100 F. His blood pressure was 118, and his pulse rate ranged between 100 and 110. Another biopsy was taken by the presenter. He was being given one-fourth Holzknecht skin unit of roentgen ray to various parts of the body, with ascending doses of sodium arsenate by injection. He had shown considerable improvement although he had been under treatment for only five days.

Dr. Satenstein reported that both sections of the skin removed from the nodular lesions showed a marked acanthosis of the epidermis, with a papillary and subpapillary plasma cell perivascular infiltration. The intima of the vessels were thickened. There was no evidence of mycosis fungoides nor any definite skin pathology with the exception of a plasmoma.

DISCUSSION

DR. ABRAMOWITZ: In this case, owing to the presence of nodular lesions, the possibility of mycosis fungoides presents itself. The patient has been

in two hospitals, and has received practically no relief. This eruption, five days ago, was much more marked, but in the interim, with roentgen-ray treatments and administrations of sodium arsenate, there had been a great deal of improvement. However, I am not inclined to believe that the patient has mycosis fungoides.

DR. CHARGIN: From the condition of the patient at this presentation, I think the eruption is probably mycosis fungoides. It consists of nodules, on an infiltrated skin, which with the prolonged history and marked itching seem to fit into the picture of premycosis. It would be necessary to have the pathologic report to confirm the diagnosis. Since the blood count has been found negative, leukemids or leukemia cutis can be ruled out. It is not a neurodermite in the ordinary sense.

DR. WALZER: The generalized individual patches and infiltrated skin of that extreme are against a diagnosis of neurodermite. I agree with Dr. Chargin that it is premycosis fungoides.

DR. ABRAMOWITZ: The glistening lichenified papules and infiltrated skin are typical of neurodermatitis. I am inclined to believe that this patient does not have mycosis fungoides, but rather some dermatitis from an unexplained cause. I hope to present the patient in a month with the skin entirely cleared, judging from the results which I have obtained in several other patients with the same symptoms. The most important thing is to try to find out what caused the eruption and not to find a classical name for it.

GRANULOMA ANNULARE. Presented by DR. CHARGIN.

E. F., a woman, aged 23, unmarried, a stenographer, presented an eruption of three years' duration. It appeared originally on the right hand over the metacarpal phalangeal joints. It made its first appearance during the summer two years before presentation, and had disappeared during the subsequent winter. Since its return during the last year, however, the eruption had persisted. She received local applications from a general practitioner until four months before. New lesions had been appearing during the past six months. When first seen she had typical white, ivory-like circles over the metacarpal phalangeal joints. This patient had received one-fourth skin units of roentgen ray, a total of seven doses, and the improvement had been marked.

DISCUSSION

DR. ABRAMOWITZ: I have seen several cases of granuloma annulare, and my impressions are similar to those of Dr. Chargin. However, some lesions of granuloma annulare have an entirely different etiology from others. In a small boy, whom I presented two years ago, I found that they were of tuberculous origin. The boy had had twelve or thirteen lesions over his whole body, which disappeared under Alpine lamp treatment and pressure with the Kromayer light. One lesion on his foot did not disappear until carbon dioxide snow was applied. At that time I was strongly impressed with the statement that Dr. Chargin made to the effect that trauma often causes the lesions to disappear. Since then I have presented another case of granuloma annulare in a little girl, aged 6, who had received four or five treatments with one-half units of roentgen ray, with no response. As soon as the Kromayer lamp was applied the lesions disappeared. This fact, together with the fact that some of the lesions healed spontaneously, leaves one in a quandary as to what form of treatment to employ. It is difficult to understand how six one-fourth units

of roentgen ray could affect a change in granuloma annulare. One-fourth units given once a week over a period of six weeks is not drastic treatment, and one would not expect results from such a light treatment in any true granuloma; therefore why expect it in granuloma annulare? The problem is to find out what the various causes of granuloma annulare are, and to administer treatment according to the cause.

ECZEMA VERRUCOSUM. Presented by DR. FRANK.

S. B., a man, aged 35, unmarried, a laborer, presented a negative history except for the usual diseases of childhood; also, five years before presentation, while in the Italian army, he had typhoid. His family history was also negative. The present skin condition started three years before as a small blister on the iner aspect of the right ankle, which broke, leaving a denuded area which was immediately covered with a crust. This condition spread slowly and steadily. At that time the patient complained of moderate itching and burning. On examination the patient exhibited on the inner aspect of the leg from the ankle to about one third below the knee, a fairly defined, brownish papular squamous rash covered with heaped up scales and crusts. The crusts were large, thick, "cauliflower," dry, friable and firmly attached. A dry surface was present on removal of the crusts. At areas where the crusts were absent, the rash showed slightly scaly coverings. There were varicose veins of the leg. At the ankle, scarring was present, probably due to a varicose ulcer. The Wassermann and urine tests were negative.

DISCUSSION

DR. WALZER: The numerous scars on the foot and leg showing healed lesions are not usually present in eczema, and I am inclined to classify this case as tuberculosis.

DR. BEST: I think it is the ordinary, logical sequence of varicose veins. The varicose veins cause poor nutrition of the skin resulting in ulceration and secondary eczema. Some scars present show healed ulceration. Poorly treated and neglected eczema, with lack of cleanliness and prolonged irritation and piling up of epidermis, brings about this vegetating or verrucous condition. I think that with wet boric acid dressings, hot water and soap frequently used, elevation of the leg, any mild eczematous treatment will clear up the condition.

DR. GAUVAIN: I have seen many cases of verrucous lesions on eczematoid processes, and if this is not such a case then we have been wrong in the diagnosis of many such cases at Kings County Hospital. With cleanliness and good nutrition, every one of the patients at the hospital recovered.

E. A. GAUVAIN, M.D., Secretary.

PITTSBURGH DERMATOLOGICAL SOCIETY

Regular Meeting, Nov. 19, 1925

LESTER HOLLANDER, M.D., *Presiding*

LICHEN PLANUS HYPERTROPHICUS. Presented by DR. PHILLIPS.

O. A. C., a man, aged 45, a merchant, presented a lesion which covered the greater portion of the glans penis. This lesion was somewhat indurated, especially at the edges, and was a bluish red. The margins of the lesion were

distinct, and the surface was covered with dry, adherent scales, the only point of ulceration being around the meatus, which had in a great measure destroyed the frenum. The lesion had been present for nearly two years, during which time three courses of neo-arsphenamine and one of mercury had been administered without any appreciable effect on the course of the disease. On the left shin were three pea-sized lesions, bluish red, slightly elevated, not itchy. The mucous membranes were normal.

Dr. Stokes, who saw the case in Philadelphia, made a clinical diagnosis of lichen planus, which was substantiated by Dr. Weidman, who made a histologic examination.

About twenty years ago, the patient had an infection of syphilis and of gonorrhea. The gonorrheal infection resulted in a stricture of the anterior urethra. The patient's blood Wassermann test was negative, and the clinical examination revealed no symptoms of syphilis. The past and family history were negative.

DISCUSSION

Dr. Hollander: I believed the case has some of the characteristics of a precancerous lesion as described by Bowen.

Erythema Induratum. Presented by Dr. Wertheimer.

L. R., a woman, aged 18, presented an indolent ulcer for the past year on the posterior surface of the lower third of the left leg. The ulcer was the size of a silver twenty-five cent piece with sloping undermined edges and an unhealthy looking granular base. The ulceration was situated on a plaque-like infiltration, which extended several millimeters beyond the border of the ulcer. There was a similar large split pea sized ulceration below and to the right of the larger lesion. The patient was a robust, somewhat heavy set person. The blood Wassermann reaction was negative. Antisyphilitic treatment gave little result.

DISCUSSION

Dr. Guy: I should make a diagnosis of bromoderma, particularly with reference to a recent nickel sized lesion located above the two older ones. This lesion is papillomatous with multiple miliary abscesses at the edges. Pain and tenderness are noted. The erosive ulcerative type of the older lesion I would account for by long continued local applications. On questioning, the patient admitted severe headaches with recourse to bromoseltzer for relief.

Dr. Wertheimer: I have not thought of bromoderma. The pustular lesion of which Dr. Guy spoke has just appeared. Therefore, taking into consideration the history of taking bromoseltzer and the lesion present, no doubt the diagnosis suggested by Dr. Guy is correct.

Erythema Induratum. Presented by Dr. Wertheimer.

Mrs. V. E., aged 39, presented just below the calf of the right leg toward the inner portion, a palm sized, bluish-red patch consisting of silver twenty-five cent piece sized ill defined infiltrations. The lesion was sensitive to touch. The left leg showed no such lesions, but varicose veins were present in both legs. The condition began two years before presentation as a lump, and gradually more lesions appeared; they have become painful during the past six or eight months. Four children are living and well; there were five premature births from the sixth to the eighth month, and during two pregnancies the patient had nephritis. Healthy children have been born since the last pre-

mature birth. There was no history of any other skin eruption, and the Wassermann test was negative. The lesions had improved under Donovan's solution.

DISCUSSION

DR. GUY: On account of the deep-seated nodular character of the lesions, the chronicity and retrograde tissue changes evidenced by slight depressions over the lesions, I felt that a diagnosis of erythema induratum is justifiable in spite of the unilateral development.

DR. WERTHEIMER: The cases of erythema induratum that I have observed were always bilateral, and in view of the fact that this lesion is unilateral and has the other characteristics as stated, I favor a diagnosis of sarcoid of the erythema induratum type.

TUBERCULOUS DACTYLITIS; OSSEOUS TUBERCULOSIS. Presented by DR. SCHWARTZ and DR. BUSMAN.

A man, aged 25, married, presented an enlargement of the ring finger of the left hand. The enlargement was fluctuating, bluish and was somewhat tender to pressure. He also presented swellings of both wrists and knees. On the flexor surface of the right wrist there was a small ulcerating lesion about 1 inch in diameter. One testicle which was removed four months before presentation proved to be tuberculous.

FRED M. JACOB, M.D., Secretary.

Book Reviews

ULTRA-VIOLET RAYS IN THE TREATMENT AND CURE OF DISEASE. PERCY HALL, M.R.C.S. (ENG.), L.R.C.P. (LOND.), with Introduction by SIR HENRY GAUVAIN, M.A., M.D., M.C., and LEONARD E. HILL, M.B., (LOND.) F.R.S. Price, $3.75. Pp. 110. St. Louis: C. V. Mosby Company, 1925.

This little book is in a field now arousing much interest. With its attractive subject and its many introductions, it was taken up with pleasant anticipations. It was with regret that these were not realized. The introductory chapters of course contain some valuable information, but they are largely concerned with the statement of elementary facts. Like so many writers on physiotherapeutic subjects, the author's optimism seems to obfusticate, if not destroy, his critical judgment. Take, for example, the following statements on skin diseases, on pages 62 and 65:

"Dr. ———— . . . reported that every case of ulceration which came under treatment during eighteen months (with a daily attendance of between 30 and 40 cases of skin diseases reviewed) was cured by ultra-violet radiation."

"In premature loss of hair remarkably successful results are obtained after a few exposures. . . . The author has treated many cases of this disease, in both sexes, and at all stages, without a single failure." The construction would clearly justify the inference that he was referring to premature alopecia, but it is probable that he has in mind alopecia areata. In either case the statement is equally astounding. Statements like these indicate such complete breakdown of critical judgment that one does not know how much importance to attach to any statement of clinical opinion in the book.

MODERN DIAGNOSIS AND TREATMENT OF SYPHILIS, CHANCHROID AND GONORRHOEA. L. W. HARRISON. Price, $3.50. New York: Paul B. Hoeber, Inc.

There is room for books that give us an orientation and the important facts of the various topics of medicine. Therefore this small English book on syphilis in the series of modern medical monographs was taken up with pleasant anticipation, for the English at times have a way of summarizing important subjects briefly and in fine fashion.

It may be said at the outset that we feel that the author missed his opportunity. While the title is the "Diagnosis and Treatment of Syphilis," etc., the author states in his preface that his work is "an attempt to provide . . . a reliable guide to present-day knowledge of syphilis"; therefore, one might expect it to be a brief summary of syphilis and the other subjects. One hundred and twenty of the one hundred and sixty pages are devoted to syphilis, and we confined our examination to that part of the book. The author is evidently writing from first-hand knowledge of the subject, but his statement of it is careless, incomplete and unsystematic. As an illustration of carelessness, throughout the book *Sp. pallidum* is written for *Spirochaeta pallida*. That is only an illustration, but it is a significant one. Nobody but a genius can write useful books with as little care as that.

The preparation of a book that gives the principles and elementary facts of a subject is not an elementary task for the tyro or for the careless attempt of the expert. It calls for a complete grasp of the subject, a proper perspective, a capacity to evaluate facts in their relative importance and other characteristics that mean mastership. That very much needed book, a brief treatise on syphilis, is still in need of an author.

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